

This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

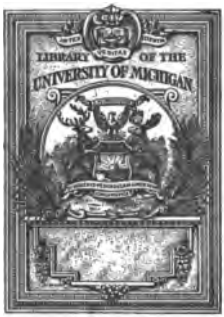
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`



PRESENTED BY
THE AUTHOR

B
74
H95

Science Primers

HISTORY OF PHILOSOPHY

FOR USE IN HIGH SCHOOLS, ACADEMIES, AND COLLEGES

BY

THOMAS HUNTER, M.A. (GLASG.)

NEW YORK ·:· CINCINNATI ·:· CHICAGO

AMERICAN BOOK COMPANY

PRIMER SERIES.

SCIENCE PRIMERS.

HUXLEY'S INTRODUCTORY VOLUME.
ROSCOE'S CHEMISTRY.
STEWART'S PHYSICS.
GEIKIE'S GEOLOGY.
LOCKYER'S ASTRONOMY.
HOOKER'S BOTANY
FOSTER AND TRACY'S PHYSIOLOGY AND HYGIENE.
GEIKIE'S PHYSICAL GEOGRAPHY.
HUNTER'S HISTORY OF PHILOSOPHY.
LUPTON'S SCIENTIFIC AGRICULTURE.
JEVONS'S LOGIC.
SPENCER'S INVENTIONAL GEOMETRY.
JEVONS'S POLITICAL ECONOMY
TAYLOR'S PIANOFORTE PLAYING.
PATTON'S NATURAL RESOURCES OF THE UNITED STATES.

HISTORY PRIMERS.

WENDEL'S HISTORY OF EGYPT.
FREEMAN'S HISTORY OF EUROPE.
FYFFE'S HISTORY OF GREECE.
CREIGHTON'S HISTORY OF ROME.
MAHAFFY'S OLD GREEK LIFE.
WILKINS'S ROMAN ANTIQUITIES.
TIGHE'S ROMAN CONSTITUTION.
ADAMS'S MEDIÆVAL CIVILIZATION.
YONGE'S HISTORY OF FRANCE.
GROVE'S GEOGRAPHY.

LITERATURE PRIMERS.

BROOKE'S ENGLISH LITERATURE.
WATKINS'S AMERICAN LITERATURE.
DOWDEN'S SHAKSPERE.
ALDEN'S STUDIES IN BRYANT.
MORRIS'S ENGLISH GRAMMAR.
MORRIS AND BOWEN'S ENGLISH GRAMMAR EXERCISES.
NICHOL'S ENGLISH COMPOSITION.
PEILE'S PHILOLOGY.
JEBB'S GREEK LITERATURE.
GLADSTONE'S HOMER.
TOZER'S CLASSICAL GEOGRAPHY.

COPYRIGHT, 1900, BY
THOMAS HUNTER.

PREFACE.

This book gives a simple and succinct account of the lives and doctrines of the great systematic philosophers and of those ancient and mediæval philosophers who have proposed some explanation of existence or some theory of conduct. The word "philosophy" in the title of this book, in accord with long-established usage, refers for the most part to metaphysics (or ontology) and in a less degree to ethics. The pupil will therefore find only incidental reference to writers who have earned their distinction by works on logic or on political economy, and to modern writers who have formulated no system in metaphysics such as would entitle them to rank with so-called systematic philosophers.

The questions at the end of the book follow exactly the order of the corresponding statements in the text, and the answers can thus be had at once. The pupil is advised to pursue the following method: Read an article; then turn to the questions on that article and give the answers from memory; and so proceed throughout the book. In this way the invaluable quality of precision will be given to the philosophical information acquired from the study of the text, and

the confusion of ideas that might result from any undirected endeavor to grasp and retain so many different thoughts will be avoided.

The Vocabulary contains explanations of such words as may not be easily understood by the pupil; and in the Index is indicated the pronunciation of proper names.

This primer is designed to supply a want long felt in an important domain of information with which no person, desiring to be really well-informed, can afford to be entirely unacquainted.

THOMAS HUNTER.

Chicago.

CONTENTS.

PART I.

ANCIENT PHILOSOPHY.

	PAGE		PAGE
Thales	7	Anaxagoras	22
Anaximander	8	Socrates	23
Anaximenes	10	The Megarics	27
Later Ionians	11	The Cyrenaics	28
The Pythagoreans	12	The Cynics	29
Xenophanes	14	Plato	30
Parmenides	15	The Skeptics	34
Zeno of Elea	16	The Epicureans	34
Empedocles	18	Aristotle	37
Heraclitus	19	The Stoics	41
Democritus	20	The Neoplatonists and the Gnostics	47
The Sophists	22		

PART II.

MEDIÆVAL PHILOSOPHY.

	PAGE		PAGE
The Fathers	49	St. Anselm	56
St. Augustine	50	Abelard	56
Arabian Philosophers	51	Thomas Aquinas	57
Algazzali	53	Duns Scotus	58
Averroes	53	William of Occam	58
The Schoolmen	54	Roger Bacon	58
Erigena	55	Bruno	60
Roscellinus	55	Campanella	62

PART III.

MODERN PHILOSOPHY.

	PAGE		PAGE
Francis Bacon	63	Stewart	81
Descartes	67	Hamilton	81
Later Cartesians	69	Brown	83
Malebranche	69	Kant	84
Spinoza	70	Fichte	86
Leibnitz	70	Schelling	89
Hobbes	71	Hegel	91
Locke	73	Comte	94
Condillac	76	The Pessimists	98
Berkeley	76	Schopenhauer	99
Hume	77	Von Hartmann	100
The Scottish School	79	Spencer	101
Reid	80		

	PAGE
Questions	109
Vocabulary	122
Index	126

HISTORY OF PHILOSOPHY.

PART I.

ANCIENT PHILOSOPHY.

THALES.

Thales (about 640 - 548 B. C.) is generally regarded by both ancient and modern writers as the first philosopher, or the first inquirer to offer an explanation of the world of mind and matter different from the mythological explanation provided by the works of the poets and the legends of the people. The facts of the biography of this earliest of the so-called Ionian or physical philosophers, as well as his teaching, were not committed to writing till long after his own time. To Plato and Aristotle he was known only through tradition, and it is to the latter writer that we owe what we know of his philosophy. A native of Miletus, in Ionia, Asia Minor, in its flourishing days, he appears to have belonged to a distinguished family, probably descended from Phœnician merchants. For his political services he was made chief of the Seven Sages. He was a mathematician and astronomer, and no doubt learned much from the Egyptians, among whom he sojourned for some time.

In philosophy, Thales thought to simplify the universe by referring it to one great principle or beginning, namely water. His reasons for this doctrine are not known, but Aristotle suggests that he was led to it by studying the origin of plants and animals, in the composition and nourishment of which water plays such an important

part. "A seed is naturally moist; but the principle whereby moist is moist, is water." Water, he taught, antedates the world; the world itself floats in water; the sun and stars draw up their substance from the seas; even the gods—for Thales was a believer in an abundance of gods in all things—spring from water. It is said that Thales ascribed to water an animate principle and even regarded the world as a great living organism, a doctrine which took a prominent place later on in the philosophy of Plato.

It will be seen that this early thinker's effort at unifying was very remarkable and thorough. The selection of water as a beginning seems arbitrary, but it was the first great hypothesis of science, the offering of a grand synthetic mind. Thales so deeply impressed his generation with his learning and ability, that the memory of his doings and teachings survived centuries without the aid of the written page. His great generalization will commonly gain greater respect upon greater reflection.

ANAXIMANDER.

Anaximander (611-about 547 B. C.), the second of the Ionian or physical philosophers, was, like Thales, a resident of Miletus. He was an astronomer and geographer, and wrote a treatise "On Nature." These are the only biographical facts known regarding him. He is said to have been a pupil of Thales, but this has been much doubted. His theories show a very great divergence from those of his reputed master. They have been stated by Aristotle; Diogenes Laërtius, who wrote about the close of the second century A. D.,

and is called the "Biographer of the Greek philosophers"; and Simplicius, who wrote in the sixth century A. D. All three, no doubt, relied on authorities not now extant. Only one sentence is presented to us in Anaximander's own words, to wit: "All things must in equity again decline into that form from which they have arisen, to render each other atonement and punishment for their offense against the order of time."

Anaximander's "beginning" or first cause has been variously rendered the Infinite, the Unlimited Mass, Vastness, or the Indefinite. This Infinite he conceived to have been originally composed of a chaos of small particles or a spray containing portions of every kind of material, but in utter confusion. In this he may be said to have foreshadowed the theory of the Atomists or the Stoics' doctrine of "pneuma" or gas, of which we shall treat later on. In this state of spray matter was not subject to decay. The infinite mass was full of motion. It controlled all its own movements, and its first magnificent operation was separating the warmer spray from the colder. The fiery element was drawn off and in the center a mass condensed and formed the earth. The earth became a cylinder, the breadth of which is three times its height. It existed amidst fire which clung around it like bark on a tree. The fire at length condensed into two orbs, which stood at some distance, with the earth midway between them. The heat of these orbs gradually hardened and dried the earth, and the waters, having become salt, ran off the surface and formed a surrounding ocean. Further condensation of the fiery element produced constellations which are called gods, according to the

orthodox view of the celestial bodies. The warmth of the sun and other celestial bodies now produced bubbles in the earthy slime and these latter developed into fishes. From the fishes men and animals were in time developed. The period of "atonement," however, he predicted, must arrive. The sea would gradually dry up and the fiery element would utterly consume the earth, reducing everything to the ashes of the primeval chaos, whence a new world would arise as before, and the whole operation be repeated indefinitely. This last opinion is called his doctrine of the Infinite Series of Worlds. This grand theory of Anaximander had a powerful effect on the current of subsequent opinion, and has not been without its influence on modern thought.

ANAXIMENES.

Anaximenes (588 - 524 B. C.) was the third of the Ionian or physical philosophers, and his doctrine illustrates the tendency of the mind to return to its original position after any reactionary movement. His position much more resembles that of Thales than it does that of his own supposed master, Anaximander. He also was a native of Miletus, and the dialect of his work, of which only fragments are quoted in later writers, was purely Ionic.

Anaximenes regarded air as the substance out of which all things came. "As our soul," he says, "which is air, holds us together, so breath and the air compass the world." The air, according to Anaximenes, is infinite. The earth floats in air as a leaf, and is itself condensed air. In fact, everything is air at different degrees of density.

Expanding, air gives rise to heat and at length, in its greatest rarefaction, to fire; and condensing, it becomes wind, then clouds, then water, then earth, and, in its utmost condensation, stones. The sun and the stars are, in like manner, formed by the condensing of air.

Anaximenes is said to have subscribed to Anaximander's doctrine of the Infinite Series of Worlds. His doctrine of air probably originated by comparing the world to a living being. The idea that the world was itself alive was a very ancient one, and the great importance of air to the individual, which led to the breath or wind and the living spirit being so frequently identified with each other in thought and language, might well suggest for air an equal importance in regard to the earth as a whole. Anaximenes is said to have been the first to declare that the moon obtains its light from the sun, and to have also explained in that way how the moon becomes eclipsed. The correspondence between the doctrine of air as formulated by Anaximenes and the "pneuma," which is the fundamental doctrine of the Stoic cosmogony, is very marked.

LATER IONIANS.

In the fifth century B. C. there were two philosophers who attained note as adherents of the ancient Ionian school. These were Hippo, of uncertain country, who held to the main doctrine of Thales; and Diogenes of Apollonia, who believed in the original aërial essence suggested by Anaximenes. Diogenes, who must not be confounded with Diogenes the Cynic, however, denied the immaterial and was accused of athe-

ism. He was a physiologist and made investigations into the nature of veins.

THE PYTHAGOREANS.

Pythagoras (about 580 - about 500 B. C.) occupies a conspicuous place in the history of early speculation. As a philosopher, reformer, founder of a religious system, mathematician, and astronomer, his name will ever be remembered. His service to the science of mathematics, in its infancy, was especially great. In fact, he first made of it an abstract science, where formerly it had been regarded and studied merely for its practical value. The son of an engraver in Samos, he early came under the influence of the teachings of the Ionian philosophers. Much has been related of him that is either legendary or fabulous, for his later adherents regarded him as a prophet, and his teachings as a sort of religion on the acceptance of which salvation depended. Many writings have been attributed to him, which all the critics condemn as forgeries. It is probable, as later writers assert, that he traveled in Egypt, and there became acquainted with the doctrines of the Egyptian priests, doctrines for which such a mystic as he would possess special appetite and aptitude. Some think that he was forty, some fifty, and others sixty years of age, when he changed his place of residence to Crotona in Italy. Here he established a school of asceticism and began to attain fame as an ethical reformer and metaphysician. The members of this society held their goods in common. They were pledged to secrecy and are said to have practiced the same rigorous course as to diet and general con-

duct as distinguished the Christian orders of later date. Pythagoras lived about twenty years in Crotona, after which he and his society were driven out, because they had become too influential in politics. He fled to Metapontum and made that city his home till his death at an advanced age.

Aristotle says that the Pythagoreans "supposed numbers to be the element of existence, and declared the whole heaven to be harmony and number." They deduced all order and organization from number; number was the great original reality, and the development of the numbers is the development of things; the world is but a system of numbers. They drew attention to the completeness and limited character of odd numbers as compared with the unlimited quality which they saw in even numbers. Their famous table of Contraries was drawn up in accord with this idea. These Contraries are ten in number:

Limited,	Unlimited,
Odd,	Even,
One,	Many,
Right,	Left,
Masculine,	Feminine,
Rest,	Motion,
Straight,	Bent,
Light,	Darkness,
Good,	Evil,
Square,	Oblong.

All numbers being evolved out of one, the One or central unity became the Pythagorean expression of deity. Many fantastic deductions were made from the order and combination of different numbers. Among these was the famous doctrine

of the Music of the Spheres. This idea rested on the assumption that the heavenly orbs are separated by accurate intervals like the lengths of strings adjusted to produce musical tones. To the Pythagoreans belongs the credit of discovering the theory in music of the numerical relations of tones, as determined by the length of the vibrating strings.

Pythagoras brought forward a theory of astronomy which was at least the first to suggest the planetary motion of the earth. His name, however, is most commonly associated with his ethico-religious conception of metempsychosis or transmigration. He taught that life in the body is an imprisonment for sin committed in a former existence. At death the best people enter the Cosmos or the great orderly unity, and the worst pass to Tartarus. The common destiny is a renewal of life in human or lower animal form according to deserts. Plato illustrates these ideas in his "Phædo." The morality enjoined by Pythagoras includes reverence to gods and parents, justice, kindness, temperance, purity, prayer, repentance, and the observance of a ritual. The Pythagoreans were succeeded by the Neo-Pythagoreans, more particularly a religious sect.

XENOPHANES.

Xenophanes (about 572 - 480 B. C.) was the first of the Eleatics, teaching their great doctrine of unity in its theological form. He was an Ionian, a rhapsodist (reciter of poetry), and for many years went to and fro among the cities of Greece exercising his calling. At last he went to Lower Italy and settled at Elea, where he spent

the latter part of his long life. A work of his, entitled "Polymathy," is mentioned by Heraclitus. He also wrote a poem "On Nature," of which fragments have been preserved.

The theory of Xenophanes placed him in strong opposition to the popular mythology. He taught that there can be only one Best and that none of the gods can be governed by another, though his manner of statement seems to concede the existence of many gods of minor power. Nevertheless, he identified the world with the one "greatest" god, so he is properly the first of the pantheists (those who hold that the universe is God). He held this one to be eternal and unchangeable, but not infinite. He denounced and satirized Homer and Hesiod for their ascribing human forms and unworthy deeds to gods. As to creation, he held that the earth formed itself from the sea, and he pointed to petrifactions as proof of this. He also taught that earth and sea would periodically mix and separate. The sun and stars were to him burning masses formed every day.

PARMENIDES.

Parmenides, of Elea (born about 520 B. C.), considered by Aristotle to have been the ablest of the Eleatics, was revered by the ancients and received a lasting monument from Plato in the well-known dialogue which bears his name. He came of a rich and distinguished family, and is said to have been a pupil of Xenophanes. Of his metrical work "On Nature" about 160 lines have been preserved in the books of Sextus Empiricus and Simplicius. His doctrine is that the one only

exists, that the many has an apparent or phenomenal but no real existence. Only being is; non-being is not; there is no becoming. Parmenides must, however, be regarded as a dogmatist rather than a skeptic, for, far from distrusting the criterion of reason, he considered that if a doctrine can not be passed upon and known by the senses it is necessarily untrue. "The existent alone is thinkable, and only the thinkable is real," is one of his epigrams. He also had a cosmogony or theory of the origination of the world. He regarded Eros, which is the love-passion or the god of love, as the ruling power in the work of creation.

ZENO OF ELEA.

Zeno of Elea (born about 490 B. C.), not to be confused with Zeno the Stoic, was a favorite disciple of Parmenides. His logical acuteness and subtlety are still much admired. Aristotle calls him the inventor of dialectic or argument whose aim is the discovery of truth. About all that is known concerning his life is that he was born about the beginning of the fifth century B. C., and that a short time before his death he was accused of being connected with a plot against a tyrant, for which offense he endured tortures with philosophic fortitude.

Zeno directed his logic against the idea of plurality. He argued that if there be many then being would either be infinitely small or infinitely great; small to infinity because the units composing it must be indivisible and, therefore, without magnitude; great to infinity because each part must have a part before it, this second

part must have a third before that, and so on to infinity. He is probably most remembered by his four arguments against the possibility of motion. These are:

(1) An object setting out to go from one point to another distant point must first traverse half the distance, and before traversing the half must traverse the half of that half, and so on to infinity, thus traversing in a limited time an unlimited number of spaces.

(2) Achilles could never overtake a tortoise if the latter is allowed a start of him, for when Achilles has reached the point from which the tortoise started, the tortoise has gone a little further; when Achilles reaches the second point, the tortoise in the interval has gone a little further, and so on to infinity; Achilles never being able to overtake the tortoise.

(3) The flying arrow is at rest, for at each moment in its flight it must be in one place and one place only. To be in one place is to be at rest. The flying arrow is, therefore, at rest during each moment of its flight and, therefore, during its entire flight.

(4) A body moving at a uniform rate passes through equal spaces in equal times. If two bodies passing through equal spaces in equal times pass each other in opposite directions they pass each other still in equal spaces, but in one half the time. Zeno held that this contradicted a law of motion as it was at that time stated.

The Achilles puzzle has received a ravelling at the hands of John Stuart Mill. His refutation rests on the statement that Zeno here confuses two entirely different kinds of infinity: the infinitely divisible and the infinitely expanded. The

former is an infinity which Achilles could attain and surpass in a few seconds. Zeno assumes that this infinity could never be attained. There are still many thinkers, however, that see in motion a logical contradiction which can no more be explained than any of the categories. They are not satisfied with the attempted explanations and regard the difficulty as real, and insurmountable by the human mind.

EMPEDOCLES.

Empedocles, of Agrigentum (about 490 - 430 B. C.), illustrates to us in his poem "On Nature," of which some 400 lines are preserved, the gradual advance of scientific inquiry subordinated to philosophic speculation. He was, like his father, a leader of the people, and opposed to tyrants. His memory has been embalmed in the most appreciative myths and legends. As physician, priest, and thaumaturgist (wonder worker), he visited cities in Sicily and Italy, winning respect and renown.

The philosophy of Empedocles recognizes four roots for things: earth, water, air, and fire. These did not, according to Empedocles, come into being nor can they ever be destroyed. Their mingling and separation give rise to all the forms and substances we see around us and account for the changes and dissolution which periodically occur. Love is the power that mingles; hate, the power that separates. In the sphere or totality of existence, love is supreme, having hate completely under subjection. Empedocles indorsed the philosophy of plurality and becoming. He explained the sensations of light, smell, and taste

by the theory which so long held sway in the early days of science, namely, that they depend on effluxes of fine particles that penetrate the pores of the several organs of sense. His idea of the origin of plants and animals is remarkable. The elements, in combining, first formed heads, arms, necks, and every limb and organ and part in independent completeness. Most of these forms perished, but, where adapted and fitted to one another, they were eventually gathered up into a few complete bodies, which became the progenitors of subsequent living things. Empedocles taught the doctrine of transmigration, that the beasts are the kindred of man and that their flesh should, therefore, not be eaten.

HERACLITUS.

Heraclitus, of Ephesus (about 535 - 475 B. C.), is regarded as one of the most profound thinkers of these early days. Certain modern schools, as that of Hegel, remember him with special reverence as their forerunner. He was sometimes called the "crying philosopher" because of the asceticism and misanthropy of his views. Politically his sympathies were aristocratic, but he renounced the hereditary office of "basileus" or king of sacrifices and retired to the mountains, where he lived on herbs and roots. On one occasion, in answer to an invitation of Darius to spend some time at his court, he wrote: "They [men] only aspire to a vain glory and obstinacy and folly. As for me, I know no malice. I am the enemy of no one. I utterly despise the vanity of courts and never will place my foot on Persian ground. Content with little, I live as I please."

Heraclitus is said to have been a pupil of Xenophanes. His great doctrine is that all things are a "perpetual flux and reflux"; there is no permanent being, but whatever we see is but part of the universal intelligence of God. The testimony of the senses is to be trusted but reason is imperfect. Heraclitus ascribed the beginning to warm ether or, as it is sometimes called by him, fire. It is self-kindled and self-extinguished. "No one of the gods nor of the human race has made this world, but it ever was and is and shall be an eternal living fire." Heraclitus said strife rules the world. "That which strives against another supports itself." "The harmony of the world depends on opposite tension, like the lyre and the bow." From fire comes water, and from water, earth. The sun is a fire renewed every day from fresh vapors rising from the sea. The world came from fire and goes to fire, to be reconstructed and demolished as before.

DEMOCRITUS.

Democritus (about 460 - 362 B. C.), who has been called "the laughing philosopher," was the first of the Atomists, and his doctrines are, in the main, identical with the materialism professed by some in the present age. Some portions of the Atomic theory are also regarded as tentative postulates for sciences that do not presume to speculate on the origin of things. Democritus was a native of Abdera, of noble lineage. He had a large patrimony, which he spent in travel in the East and in Egypt. He had a vast amount of learning when he returned from

Egypt, and his fellow-citizens are said to have raised a handsome subscription for him. He died at a very advanced age. Diogenes Laërtius says that he left behind him seventy-two works, but of all this mass, covering every topic then discussed, only small fragments have survived.

Democritus taught that everything is reducible to the full (plenum) and the void. Being fills space; non-being, void. Being consists exclusively of matter, and matter is composed of atoms, minute, indivisible, and each completely filling the space it occupies. These atoms are underived, imperishable, and homogeneous. They differ only in form and size. They were originally in motion, an essential motion that accounts for the combinations in organic and inorganic forms. In falling, the heavier atoms struck against the lighter and produced a whirling motion. Worlds grow up in this way by accretion. Fire and the soul are made of fine, smooth, round atoms. Breathing is for the purpose of keeping up the soul's supply of these. Death is but a scattering of atoms. Perception by the senses is the effect of small material images that are given off by bodies in every direction. All sensation is reduced to touch. Matter has only two primary qualities, extension and resistance; the other so-called qualities are secondary or only sensations in us.

Democritus openly opposed the popular mythology, and some say that it was his ridicule that earned for him the title of "laughing philosopher." Others say it was his moral idea that nothing should be taken too seriously; that the pains and cares of life should be dismissed from mind. The Epicureans adopted his general

atomic theory, and also his moral theory that tranquillity of mind is the highest good. Democritus advised against marriage and everything that seems to threaten the condition of ease and peace.

THE SOPHISTS.

The Sophists, who flourished about the middle of the fifth century B. C., did not properly constitute a philosophical school. They occupied the higher walk of the teaching profession, and taught the arts of logic and declamation for the forum, the senate, the bar, or the debating platform. They are sometimes referred to as if they formed a school of thought. In a negative sense only could they be said to have done so, for they had no positive philosophical system in common. They, however, generally expressed skepticism of the possibility of attaining a knowledge of truth. Their rise and influence marks the first pause in the work of inquiry. The most notable sophists were Protagoras, of Abdera; Gorgias, of Leontini; Hippias, of Elis; and Prodicus, of Ceos. Protagoras, author of a treatise called "Truth," by making each man a law unto himself, and Gorgias, who wrote "On Nature," by his complete philosophical and moral skepticism, brought upon themselves and upon their whole class—though the latter is said scarcely to have deserved it—Plato's immortal censure.

ANAXAGORAS.

Anaxagoras (about 500 - 428 B. C.), native of Clazomenæ, in Asia Minor, is an impressive figure in the history of early Greek philosophy.

He sacrificed his property and his political prospects to the search for knowledge, for fear lest these might in any way interfere with his whole-hearted devotion to that work. He spent the best part of his life at Athens, where he became the victim of religious persecution and was condemned to death but allowed to go into exile. He died at Lampsacus at an advanced age. He was an intimate of Pericles and Euripides, but lived an ascetic life, studying astronomy, mathematics, and philosophy for the love of truth.

Anaxagoras teaches that all things existed from the beginning in infinitesimally small fragments, thus: fragments of gold, fragments of flesh, etc. The task of collecting these fragments and arranging them was performed by mind or reason. This mind (*nous*) was illimitable and independent of the likewise illimitable mass of fragments. The first step towards organizing was the rotary movement of the fragments. These fragments appeared at first like cold mist and warm ether. They next formed water, earth, and stones. Seeds floating in the air, carried down with rain, produced vegetation. Animals sprang from warm and moist clay. Anaxagoras is thus said to have suggested to the Greek mind the theory that nature is the work of design.

SOCRATES.

Socrates (about 469 - 399 B. C.) has been assigned the central place in the history of Greek philosophy, it being divided into two portions, of which the first is termed the Pre-Socratic. We are indebted mainly to Plato and Xenophon for what we know of his life, for Socrates is one

of the few men of great fame who never distinguished themselves in the world of action, and who never wrote a book. His deep and original genius, however, found the most excellent of reporters, and his influence on the world's thought, particularly in the department of ethics, has been immense. He was born at Athens, his father being the statuary Sophroniscus and his mother the midwife Phænarete. He got a good education of the kind customary in those days, the subjects being gymnastic, music, geometry, and astronomy, including also the higher course in philosophy and culture. He then became a sculptor like his father, but believing, from certain dreams and signs, including the voice of his "dæmon" or guardian angel, who admonished him all through life, and an oracle, that his proper work was to educate, he soon changed his profession.

Socrates felt that he was not a wise man himself, although the oracle had pronounced him such, and he accordingly went in search of some one who could teach him wisdom. He went to the reputed wise in search of truth, and, by asking them questions, discovered that they were quite as ignorant as he considered himself to be. He, indeed, was wiser than they if only in the fact that he was conscious of his own ignorance, while they, being ignorant, continued to delude themselves by thinking that they were wise. He spent his time henceforth in the streets and the market place, debating with any one who might profess to know any truth and be inclined to submit to cross-examination regarding it.

His appearance was extraordinary. Barefoot and poorly clad, squat and uncouth in form, his

eyes protruding and stolid, his lips thick and sensual, his nose flat and turned up, he is said, in Plato's "Symposium," to have resembled a Silenus image such as might be seen in shop windows. As the Silenus, when opened, was found to contain images of gods, so Socrates was a treasury of logic and wisdom. However great his service to the world, Socrates was not the man to make a woman happy, but his wife Xanthippe's fits of exasperation, over his odd habits and philosophic calm, have been hurtful to her memory.

The poverty and asceticism of Socrates, who refused to accept remuneration from his followers, contrasted strongly with the condition of the luxurious and well-paid sophists. Yet these knew that he was a real menace to their class and few of them dared expose their logic to his so-called "elenchus" or destructive questioning process. The Sophists had abandoned the search for truth and settled into a dogmatic indifference. Socrates believed knowledge attainable, particularly in the domain of ethics. He referred all virtue to knowledge, all vice to ignorance, whereas the Sophists rested them both on opinion.

Socrates believed in the gods, and held the one great "demiurge," the creator of all things, the soul of the world as man's soul is the soul of his body, to be supreme among the deities, and therefore speaks frequently as almost a monotheist. He thought that God for some unknown reason did not desire men to know how he created the world and them, and he therefore inclined to pass over the speculations of the cosmogonists as futile and visionary. Religion be-

came to him thus the province of faith, and ethics, the province of knowledge. Nothing but knowledge of the principles of conduct would answer the practical purposes of life, and to despair of such knowledge was self-destruction. The true object of conduct, the *summum bonum*, was the good rather than the useful. Socrates was eminently constructive in attempting to demonstrate by means of his elenchus that virtue is supreme, that justice only can bring happiness, that injustice, conceived in folly, is always the parent of misery to him who practices it as well as to him upon whom it is practiced.

Moral truth, he held, is contained in the soul of every one and only requires to be brought to the birth. He naïvely compared his occupation in assisting at this birth of truth by means of the elenchus to his mother's profession, and discarded rhetoric (oratory) in favor of the dialectic method. Rhetoric appeared to him, particularly in the mouths of the Sophists, to be too often successful in making the worse appear the better reason. He therefore shunned it as a dangerous art for any humble truth-seeker to come in contact with. The dialogue form of the works of Plato is largely due to the adoption by that thinker of this opinion of his master. Socrates sought definitions, particularly of such things as justice, piety, democracy, and law; but by definition he expected to gain an idea of the essence of the things themselves rather than a mere dictionary explanation of the name. There was a persistent purpose observable in his dialogues: to establish the truth of his central ethical principles. He gathered around him a group of admiring pupils, youths of every social condition,

among whom Plato, Alcibiades, Xenophon, and Antisthenes are the most celebrated.

Socrates, in early life a soldier, at one time a senator, and for a day the "epistates" or president, was a model of integrity in all his dealings. The tribute of his pupils, Plato and Xenophon, to his virtues is the highest that can be paid. He died a martyr to truth. The dislike with which he was held in influential circles, owing to his reforming tendency and his departure from the established conception of polytheism, culminated in his paying the reformer's penalty. He was tried and condemned to drink a potion of the poison of hemlock. The sad story of his death is touchingly given in Plato's "Phædo."

THE MEGARICS.

Euclid of Megara, the founder of the Megarian school of philosophy, was a disciple of Socrates. He was born in the latter part of the fifth century B. C., probably at Megara, which became the seat of his school after the death of his great teacher. He must be carefully distinguished from the mathematician, Euclid of Alexandria, who flourished more than a century later. It is related of Euclid, that, while the residents of Megara were forbidden to enter Athens, he came nightly in the guise of a woman to hear the words of Socrates. He was among the number who heard Socrates' last discourses in prison.

Euclid's doctrine combined the Eleatic metaphysical "unity" with the Socratic idea of "the good." Euclid adopted the extreme view of the impossibility of division, becoming, and motion. The Megarics were remarkable mainly for their

dialectic, which depended much on the *reductio ad absurdum*, the method of argument which first presumes the opponent's statement to be true and then infers absurdities from it. This method was often used in such a quibbling manner as to gain for the Megarics the title of Eristics or "wranglers."

THE CYRENAICS.

Another disciple of Socrates, Aristippus, founded the Cyrenaic school, which had a brief existence, being continued after his death by his daughter and grandson, and a few others, and then disappearing. The school takes its name from Cyrene, in Africa, the birthplace of Aristippus. The father of this philosopher was a wealthy merchant, who sent him on an errand to Greece. Aristippus there heard Socrates and forthwith became a follower. He accepted the teaching of his master in other respects, but interpreted "the good" to mean pleasure. His habits of ease and luxury offended Socrates. That he defended them in conversation with the latter is reported in the "Memorabilia" of Xenophon. He taught that the pleasure of the present moment is the foremost consideration, but modified his advice by recommending the virtue of self-control. Pleasure should be the slave, not the master. Aristippus made a complete identity of good and bad with pleasure and pain. He extolled wisdom as a means of preserving the mastery of desire, and some of his later disciples, laying emphasis on this, approached almost to the Cynic position, the one most opposite in practice to the Cyrenaic.

THE CYNICS.

Few of the early systems of philosophy are more famous, at least in name, than that of the Cynics, largely on account of the eccentricity of conduct to which it gave rise in its founders and devotees. The word "Cynic" is the Greek for *doglike*, and is supposed to have been applied to Cynics at first as a nickname on account of their ordinary snarling criticalness and their disregard for the decencies of life. The founder of Cynicism was Antisthenes, a disciple of Socrates. He was educated in Athens under famous Sophists and entered upon the profession himself. When he heard Socrates he changed his mode of life and emulated his master in his poverty. There was this difference in their views. Socrates did not regard poverty as a virtue; Antisthenes did, and extolled the idea of reducing wants to the fewest number, and satisfying only the most rigorous demands of nature. He considered a cloak, a staff, and a cup to be a sufficient equipment. He thought abstract speculation futile, and his school is therefore notable for its conduct and not for any opinions except its ethical opinions. The Cynics carried the principle of independence through self-denying to its extreme.

No account of the Cynics would be sufficient without some mention of the famous Diogenes. He was the son of a money-changer of Sinope, in Pontus. He fled to Athens, on account, it is said, of being implicated with his father in adulterating coin. He was then without means and resolved to remain so. He adopted the Cynic ideas and divested himself of everything but a cloak, a wallet, and a bowl. Even the bowl was thrown

away, when he discovered, on seeing a boy scooping up water with his hands, that it was unnecessary. He attached himself to the following of Antisthenes, although that gruff individual tried to drive him off with a stick. He slept sometimes in a tub, sometimes on the steps of public places. He would roll himself in hot sand in summer and embrace snow-covered statues in winter, so as to inure himself and strengthen his powers of endurance. On a voyage to Ægina he was captured by pirates and sold as a slave in Crete. He declared that his trade was "to govern men" and that he wanted to be sold to a man who needed a master. He had the good fortune to be bought by a man who made him tutor to his children. He spent the remainder of his long life in Crete in that position.

Many odd stories are told about Diogenes. His going through Athens with a lantern in the daytime, looking for a genuine man; his reply to Alexander the Great, when offered any favor he might choose—asking that the king should merely stand from between him and the sun—and many other witticisms have made him a noted character. Diogenes answered the arguments against motion by rising and walking. Sometimes, however, he was equalled in repartee. Stamping on Plato's carpet, he exclaimed: "Thus I trample on your pride, O Plato." To this, Plato answered: "But with greater pride, O Diogenes."

PLATO.

Plato (427 - 347 B. C.) was said to be, on his mother's side, a descendant of the illustrious lawgiver, Solon. He was a pupil of Cratylus the

Heraclitean, and a follower of Socrates. He established a school called the Academy, at Athens. These are the most reliable facts of his life. Tradition adds that his name was at first Aristocles and that "Plato" was a sort of nick-name indicating that he was broad-browed or broad-shouldered. It is said that he wrote poetry but burned the manuscript on comparing his production with Homer, that he traveled in Egypt, fought in battles, visited Syracuse, quarreled with Dionysius the tyrant, was thereupon sold into slavery by him, and was purchased and freed by an admirer of his genius. The authority for these latter statements—the last two obviously somewhat improbable—is the "Epistles of Plato," whose authenticity of authorship is now, however, generally doubted.

Few men have been the subject of as high encomium as Plato. His position in literature rivals, if it does not even surpass, his position in philosophy. His dialogues, with all their dramatic dress and felicitous expression, make interesting reading to the modern student. His most quoted matter is clear and pleasing, but his thoughts on metaphysics are subtle, for Plato is one of the severest of thinkers, and pushes his logic to places that completely transcend the imagination of most men. His influence on the thought of the world has been profound as the theories he set forth. Plato was wealthy in ideas, and consequently stimulating to thought. There is a general, but mistaken, tendency in the minds of ordinary readers to regard as poetical fancies many of these developments which he undoubtedly regarded as literal and fundamental truths. These great conceptions have many of them

little place in modern thought, but the power which gave them momentum is still as invigorating to the philosophic mind as ever.

The order in which Plato's dialogues were written is not known. There is, moreover, some difference of view discernible in them, so that a consistent philosophical system of the great thinker can with difficulty be built up. Among Plato's famous doctrines in psychology is that of ideas, or that the general term is the only reality. The general idea of a man antedates any particular man. The reality lying under all phenomena, under all changing, under all becoming, is the general idea. The long-drawn-out controversy anent "nominalism" and "realism" during the Middle Ages turned upon this point. Plato averred that ideas are not perceived by us but only remembered. In its past existence, the soul, before it entered this body, was face to face with truth; it perceived realities just as directly as it now perceives phenomena. But for the memory of these invariable realities it would have no power to generalize and would pass from particular thing to particular thing just as irrational creatures are supposed to do. In the domain of morals the process is the same: we recognize a good act to be good by our recollection of goodness in our former state of existence. A beautiful object awakens the recollection of our prenatal vision of unchangeable beauty. The moral and the æsthetic faculty, he holds, would not be possible to a soul without this prior vision and the memory of it. These propositions, known as his doctrine of Reminiscence, are given by Plato as his theory and not as his poetical notions.

The trend of the speculation of the philosophers of early Greece was to monotheism. Plato was a monotheist, subordinating the polytheism of his day to monotheism, but, of course, in this he was by no means original even among his own countrymen, as is shown by the account of the preceding pages. His views of religion and of the analogy between the world and an animal were those apparently enunciated by his master, Socrates. The world of phenomena is a place of imperfection for the soul and we must imitate the gods in virtue, temperance, and justice to escape from the limitations which that world imposes on us. Plato's doctrine of love, called since Platonic love, is famous. Love is the yearning of the soul for beauty, the desire of like for like. The divinity in us is bound to the divinity without us by love. This fine sympathy between two souls, binding them together, is thus very different from the ordinary and less ethereal emotion. Plato says virtue is knowledge, but there are arguments in some of the dialogues expressive of a different view.

Plato's "Republic" is still one of the dialogues most read by students. It is full of practical suggestions, which still apply, despite the material alteration that has taken place in social conditions. It has some peculiar recommendations: the philosophers are to be the rulers, the poets are to be banished for maligning the gods, the musicians, all but the gravest, are to be banished for their general immoderation and the tendency of their productions to cause immoderation in others. In Plato's scheme of society, the family

and the individual are completely sacrificed to the State.

No very satisfactory classification has ever been made of Plato's dialogues. We may mention these dialogues as among the best known: Phædrus, Lysis, Protagoras, Parmenides, Apologia, Crito, Symposium, Alcibiades I., Alcibiades II., Gorgias, Meno, Theætetus, Phædo, Republic, and Timæus.

THE SKEPTICS.

The founder of the so-called Skeptic school, a sect whose opinions differed but little if any from those of the leading Sophists, was Pyrrho, of Elis (about 360 - 270 B. C.). He was at one time a soldier with Alexander the Great in India. He spent nearly all his life a much respected and poor citizen of Elis. As he left no writings, we are indebted to his pupil, Timon, of Phius, for our knowledge of his doctrines. Timon embodied these in a poem called "Silloi," in which he poured ridicule on nearly all the Greek philosophers. The Sillographist, as he is called from the title of his poem, indorsed the following views of Pyrrho: we know nothing concerning the nature of things; we should suspend judgment; the proper moral state is imperturbability. The Pyrrhonists, as they were sometimes called, admitted that they were skeptical even of their own skepticism. So also did the New or Middle Academy, founded by Arcesilaus a century later.

THE EPICUREANS.

One of the most widespread systems of opinion in the centuries immediately preceding the Chris-

tian era, was that of the Epicureans. It and Stoicism, which presented many essential points of resemblance, for a time occupied almost the entire field. Their practical and dogmatic character satisfied the requirements of men more thoroughly than the feebler systems of earlier philosophers. The word "Epicurean" or "epicure" has acquired a degraded meaning in later times such as did not attach to it in the days of Epicurus and his followers.

Epicurus (342 - 270 B. C.), the father of this philosophy, was the son of a schoolmaster in Samos. He went to Athens at the age of eighteen. He was banished along with the poorer citizens by Antipater the Macedonian. He went to Colophon, where his father had settled, and probably engaged in his father's profession. He finally settled at Athens and spent there the last half of his seventy-two years. He bought a home and garden for 80 minæ ($1,500), and gathered around him a society of men and women. They ate at the same table a diet of barley bread and water and a very moderate allowance of wine, but there was no community of property. When Epicurus died he left his property mainly for the support of the younger members of his society. He wrote some three hundred books. The subject of thirty-seven of these was "Nature." We have fragments of about nine of his books bearing that title.

Epicurus put conduct above everything in philosophy and advised his pupils to leave culture alone. He based his system on the dogmatic assertion of what is commonly called "common sense" as opposed to "idealism," and on the feelings of ordinary men. He said the

ultimate canon of reality is sensation; things are precisely what they seem. He carried this idea to great extremes sometimes, as when he declared that the sun and the stars are no larger than they appear to be. In order to discover a moral standard he advised a return to nature. Epicurus followed the Cyrenaics in declaring pleasure the highest good of life. The pleasure he recommended, however, was of the calm and equable sort. Friendship, as an emotion more temperate and subject to reason, he placed above love in his ethical economy. The individual should cultivate a happy and peaceful habit of mind and rather avoid strong emotions. While Aristippus (the Cyrenaic) defined the happy life as a sum of moments of pleasure, Epicurus discarded this idea and taught men to endeavor by the practice of caution and prudence to avoid present pleasures that are liable to bring about painful consequences. Individuals ought thus to pick their way and exercise their reason in the work of foresight and choice. Whatever might limit freedom or increase care should be generally avoided. Epicurus counseled abstinence from marriage and from politics. He advised, however, a general charitable and sympathetic disposition, and reproached Stoicism and Cynicism as tending to promote the opposite of that. He also discarded fatalism as not in accord with common sense. Bodily pain was held to be more endurable than mental pain.

Epicurus had also a theory of the universe. He accepted the doctrine of atoms and the void, and held that worlds arose, flourished, and dissolved, and new worlds were created, all through the incessant moving of atoms. The soul of man was

an inner body of finer texture. All things sent forth small images of themselves, which, striking on the eye, made sight possible; there could be no such thing as action at a distance. The individual, at death, ceased to be. Epicurus thus made liberal use of the theories of Democritus. As for the gods, they existed, but in peace and rest. They had nothing to do with either the making or the governing of the world. They never interfered in the affairs of men. They were examples for men, to teach men the highest reach of the peaceful and happy temperament. They also disseminated an influence on men's souls such as the sun disseminated on their bodies.

Epicureanism has been very faithfully expressed in the poem of the Roman Lucretius, the "De Rerum Natura," highly esteemed for its beauty and its logical forestatement of some important conceptions of modern science.

ARISTOTLE.

Aristotle (384 - 322 B. C.), the greatest of the Greek philosophers, was a native of Stagira, a Greek colony, and hence is often called "the Stagirite." His father, Nicomachus, was a physician, who numbered the Macedonian king among his patients. The historian of the philosophers, Diogenes Laërtius, is the chief ancient authority for the facts of the life of Aristotle. When seventeen years of age, the future philosopher went to Athens and enrolled as a pupil in the Academy of Plato. He was easily the ablest of the school. He remained there until Plato died, twenty years later. He differed from his master too much in opinions to be appointed

head of the school. He accordingly betook himself to the court of Hermeas, ruler of Atarneas in Asia Minor. He there married the niece of that potentate, and retired to Mitylene. When forty-two years of age he was appointed tutor to Alexander the Great, then a boy of fifteen. When forty-nine years of age, he returned to Athens, and remained there till his death, thirteen years later. It was probably during the last-mentioned period that Aristotle composed those works which have made his name immortal.

Aristotle's school in Athens was called the Lyceum, and his followers have been called the Peripatetics, as they received their lectures while walking up and down the shaded paths with their master. Aristotle abandoned the dialogue plan of Plato for the method of direct demonstration. While Plato has always been considered an idealist, Aristotle is often classed as an empiric, or one who rests upon experience, and reasons upward from facts according to the method of induction, as opposed to deduction, which is reasoning downward from general propositions. Though his temperament and practice were clearly much more of the exact scientific kind than those of his predecessors in the field of philosophy, the name of Aristotle used to be commonly associated with deduction, especially so by the mediæval teachers. This was owing to his elaboration of the syllogism, the special instrument of deduction. The syllogism is beautifully expounded in his logic, a science created by him and but little improved since his day. The syllogism reasons from the general to the particular and has about sixteen forms. Its simplest form is illustrated as follows:

Every tyrant is a bad man;
This man is a tyrant,
Therefore he is a bad man.

The first two of these propositions or statements are called the premises (major and minor), the third the conclusion. The accuracy of the conclusion depends on the truth of the two premises.

Aristotle opposed the Platonic doctrine that ideas have objective existence, and stated that they have subjective existence only. By this he meant that a general term, such as *man*, does not represent something which exists apart from the individuals, as a type which the soul has seen in its past existence and now remembers, but is only a thought in the mind. He proved this by pointing out that the individual man can be placed under the head of man, animal, biped, and other classifications, and there must, therefore, if the Platonic theory were true, be types for each one of these. The result would obviously be a complete confusion, as the classifications overlapped one another. Aristotle held that our knowledge comes primarily from sensation. By comparing present sensations with the memory of past sensations we obtain ideas. These ideas are the result of the rational process of induction, and the power to infer them is the power of mind which we call reason, a power which distinguishes the intelligence of man from that of brutes. Art consists in the knowledge of these universal truths, whereas experience is merely a knowledge of particular sensations or details. Aristotle illustrates this by saying that to know that a particular medicine has cured certain individuals is experience, but to know that it cures all men is art.

Aristotle enumerated ten categories. Categories are those things that must be assumed by the thinker, the very forms or framework of thought. They are *data*, admitting of no proof but themselves, and of no disproof. The Aristotelian categories are: "quantity, quality, relation, action, passion, the where, the when, position in space, possession, and substance." Aristotle also enumerated five predicables or things that can be affirmed concerning any object. They are genus, species, difference, property, and accident. Thus of *Socrates* we might, in the above order, predicate man as genus, philosopher as species, moral philosopher as difference, rationality as property or essential quality of the man, and Greek as one of the accidental or non-essential qualities.

Though essentially an empiric, Aristotle nevertheless evolved a system of metaphysics. He found four things at the root of all existence: (1) the material cause, or essence; (2) the substantial cause, or substance; (3) the efficient cause, or motion; (4) the final cause, or purpose. He epitomized the world as a trinity of finite substance, infinite substance, and absolute substance or God, the last being a unity embracing all three.

In his ethics Aristotle first made the clear distinction of the will from the intellect, and in this definition became the forerunner of the Stoical movement. He placed the highest pleasure in the exercise of the reason. Wisdom lay in the middle course, the so-called golden mean. "Neither too much nor too little," was the law of conduct, considered as a branch of art.

In politics Aristotle preferred a wise monarchy

or aristocracy. He objected to the communism of Plato. He was very conservative. He approved of slavery, and did not look with favor on Plato's programme of raising the standard of women's education. To this extent, however, he was merely a conformist to the prevailing opinions of his time. He has, however, much to say on the art of government that is read and pondered by statesmen of the present day.

His best-known works are: Topics, Prior Analytics, Posterior Analytics, Rhetoric, Nicomachean Ethics, Politics, Poetry, Researches About Animals, On the Heavens, On the Soul, and Metaphysics. A vast number of works have been attributed to Aristotle, many of which are lost and many spurious.

THE STOICS.

During the two centuries immediately preceding the Christian era, Stoicism was the most potent and influential philosophy, numbering among its adherents principally the cultured, upon whom the common paganism had completely lost its hold. Like many of the Greek schools, Stoicism had its birth in a Greek colony. Though a product of the Greek intellect, it was less Greek in its spirit than any philosophical system that had preceded it. It, no doubt, owed considerable even at the beginning to western influences, and in its palmy days it appealed with more force to the grave Roman than to the argumentative and æsthetic Greek.

The founder of the school was Zeno of Citium (about 358 - about 260 B. C.), in the island of Cyprus, who must not be confounded with Zeno

the Eleatic. Zeno the Stoic was the son of a merchant of the city of Citium. His father, on returning from a business tour, brought Zeno some works of the Socratic philosophers. Zeno studied them with avidity. At the age of thirty he went to Athens. The ship on which he sailed and which contained all he possessed, foundered. Reduced to poverty, he joined the ranks of the Cynics. It will be remembered that the philosophical preference of Diogenes was seemingly disposed at the beginning by similar misfortune. Zeno's first Cynical instructor was Crates. It is related that, impecunious and disconsolate, the future prophet of Stoicism was one day walking the streets of Athens when he chanced into a bookseller's and became interested in one of the then numerous works of the Cynics. He turned to the bookseller and asked where he could find such a man as the volume described. The bookseller replied: "There goes one," pointing to Crates, who was passing. Thus Stoicism had its birth in Cynicism. But it soon outgrew the mean limitations of the parent system. Zeno's next instructor was Stilpo, of Megara. Under him Zeno acquired skill in debate. He studied Plato, and finally opened his famous school at the "stoa," or porch, "the painted corridor," as some call it, on the north side of the market place at Athens. Hence the name of "Stoic" and the title of "philosophy of the porch." Zeno is said to have lived mainly on figs, bread, and honey, and his ninety-eight years proved, at least, the comparatively innocuous character of such a frugal diet.

The preservative strength of Stoicism, like that of Cynicism, lay in its forcefulness in the domain

of conduct. Its thoroughgoing ethical doctrines gave the stern joy and satisfaction to the doubter, and the fire to the fanatic, such as peculiarly suited the prevalent appetite for reaction against the listless insipidity of the common pagan creed. Stoicism was an orderly system appealing with what seemed a sweet reasonableness to heads which were wearied with wasted efforts at rationalizing the grotesque or scandalous in the stories told by poets about gods and heroes. According to the Stoical ethics, manhood is virtue, and the *summum bonum* is therefore not pleasure but virtue. Activity is a nobler thing than contemplation. Man is made to work, not to speculate or enjoy. Pain is not an evil; pleasure is not a good. Critics soon pointed out that, if pain be not an evil, it must be unnecessary for us at any time to avoid it. The Stoics made some sacrifice of their consistency by answering that any one is justified in avoiding unnecessary pain, because, though the latter be not an evil, it is nevertheless an inconvenience. Though this quibble showed the impossibility of establishing an absolute dogma on the subject, the spirit of the doctrine was obviously a powerful moral tonic.

The Stoic made "reason," expressed by the Greek word "logos," the law for mankind. The logos was the highest thing in man as it was also supreme above fate and above matter in the universe. It was the ruling power, God. "To live conformably to reason" became the comprehensive rule for all. No act should be performed that is not rational or sanctioned by reason. An act is sinful because it is irrational. Every philosophical doctrine has been carried to an extreme for the benefit of both its adherents and its

opponents. Accordingly we find one of the later Stoics, Persius, saying that to move the little finger without a sufficient reason is as wicked as to commit a murder; the wickedness of each act was thus estimated not by its results but by the general fact that it was contrary to reason. The doctrine "to live conformably to reason" was interpreted by the Stoic Cleanthes as "to live conformably to universal nature"; by the Stoic Chrysippus as "to live conformably to human nature."

To the Stoic the only worthy pleasures were intellectual pleasures. "Apathy," involving the suppression of the affections, was recommended. It became the part of a man to despise death as well as pain. To the Stoic, suicide seemed a legitimate mode of putting an end to all suffering. Many notable Stoics died by their own hands, and tradition relates that even the great master, Zeno, voluntarily gave up the struggle. It is said that as he was passing down the steps leading from his celebrated "porch," he fell and broke his little finger. Accepting this accident as a proof that his days of capability were over, he went home and strangled himself. Yet Stoicism would not admit the charge that it was a gloomy or pessimistic philosophy. It was a system for this life only. It recognized a providential fate, but its great moral potency and practical value lay in the emphasis it laid on the human will and its right expression in the reason or "logos." A tribute to the Stoic "logos" is discovered by some in the first chapter of the Gospel of St. John, where it is translated by "Word" and identified with Christ.

Stoicism can scarcely be said to have had a

metaphysic, because it adopted the strictly materialistic view of nature, and the since-called common sense interpretation of the sensations, to which, as we have seen, the Cynics first gave prominence. Stoicism, however, was the first system to bring into the foreground the category of cause and effect. It also established force as a primary thing to be distinguished from matter, yet coextensive with it. Those sensations, such as sound, light, and heat, which are now explained on the undulatory or wave theory, were explained by Stoicism on the theory of air currents at different degrees of tension. To be consistent in their materialism, the Stoics were wont to explain even reason itself as other than a spiritual principle, as a "pneuma," which is a current of air or gas. Everything was at one time this gas, will again become so, and will repeat the work of creation by condensation, and of dissolution by rarefaction. The soul of man is also of this gas. It holds the body together, and, if it can hold together its own atoms after it leaves the body until it reaches the upper ethereal regions, it may prolong its existence for a period. Whether all souls, or only those of great men, could accomplish this, was a moot point. The destiny of all was absorption in the general "pneuma" of the world. Time and space were something, but as nothing real or external corresponded to them, they could not be said to exist. On such subjects as these the Stoic materialism necessarily broke down into inconsistencies. In the Stoic cosmogony or theory of world origin, pneuma is the first cause of all. This pneuma or expanded gas is a conception

intended to provide for a thoroughgoing materialism; but, as the extreme of materialism easily passes into the extreme of idealism, which is the negation of all matter in favor of spirit, it would be very easy to misinterpret this fundamental assumption of Stoicism as a spiritual principle, and such misinterpretation must be guarded against.

In Stoicism we discern the gathering of many of the fruits of the earlier philosophies of the Greeks. Its God, though conceived as material, is none the less rational, and to be worshiped, not by images but in the shrine of the heart. Stoicism called upon man to be perfect, to seek virtue first, and, in seeking it, to scorn alike pleasure and pain, to regard the development of one's being, by conforming it to reason and the moral law, as the object towards which each should strive. Stoicism, while seldom original but rather eclectic in its great doctrines, pervaded the thought of the teachers of mankind during the age in which Christianity arose, and made its influence still felt centuries after the latter had displaced its authority. In its roll of great names are Seneca, Cornutus, Persius, Lucan, Epictetus, and Marcus Aurelius, each of whom left writings which still survive. Cato and Brutus are also Stoic Romans who stood high in the estimation of their countrymen. Cicero might almost be classed with them, though he preferred to be numbered with the Eclectics, or those who freely choose from among the different systems. The Eclectic wave affected all the Greek schools in the century immediately preceding the Christian era.

THE NEOPLATONISTS AND THE GNOSTICS.

Neoplatonism may be said to represent the last stage of Greek philosophy, after which discussions of the truths of the Christian religion engaged for several centuries the entire attention of the world's thinkers. Neoplatonism is one of the skeptical schools in that it doubts the reliability of the knowledge we acquire from experience. It goes back to metaphysics and, with Plato, regards the general ideas as the only realities. It adopted the Stoic morality. It has often been regarded as a gathering together and summing up of the earlier philosophical systems. However, it introduced the new principle of the supra-rational, affirming that the highest truth lies beyond reason, in divine communications or revelations. It found these revelations in the religious traditions and rites of all nations. The older the revelation the better. Neoplatonism has thus been described as religious in its tendency. It interpreted myths allegorically. It claimed to be the absolute religion. It contemplated restoring all the religions of antiquity, making each a vehicle for its religious teaching. It regarded every ritual as a means of helping morality upward. Over all the demiurges (creators) it discerned one ineffable God.

The most notable exponent of Neoplatonism was Plotinus (205 - 270 A. D.), a native of Egypt, who resided in Rome during his maturity. His writings were arranged by his pupil, Porphyry, and published in six "Enneads." In these his philosophy shows a strongly religious trend. His positive teaching embraces an ascetic morality, designed to lead the human soul, degraded by

corporeality, up to see God and become one with Him. Porphyry, in his own book, coupled with essentially the same doctrines as his master's such bitter attacks on the Christianity of his day that the book was destroyed.

Neoplatonism left its impress on the later teachers who belong to its completely successful rival for supremacy in the religious world, Christianity. Augustine, one of the greatest doctors of the church, records in the seventh book of his "Confessions" how much he owed to the perusal of Neoplatonic works.

Gnosticism is a general name given in the beginning of the second century to various heresies that existed about that time and drew more or less from Christianity without accepting the standard Christian creed. It consisted in some cases of Hellenism, in others of Judaism, of the old Persian or Zarathustrian religion, or of Buddhism, reënforced with the idea of redemption borrowed from Christianity. Hellenic Gnosticism had a distinguished exponent in Philo, who is sometimes called a theosophist. He intermingled Platonic and Old Testament ideas.

PART II.

MEDIÆVAL PHILOSOPHY.

THE FATHERS.

From the second century to the seventh century of our era, particularly after the decay of Neoplatonism, human philosophy gave up its rôle to theology, which latter was studied and expounded almost solely by the great logicians within the pale of the church. These thinkers have ever since been called the Fathers, a term generally held to imply soundness of doctrine, holiness of life, the approval of the church, and undoubted antiquity. They are divided chronologically into three groups: (1) the Apostolic Fathers, (2) the Primitive Fathers, and (3) the Post-Nicene Fathers. The Apostolic Fathers, or those who were to some extent contemporary with the apostles, are Clement of Rome, Ignatius, Polycarp, the unknown author of "The Shepherd of Hermas," and the unknown author of "The Epistle of Barnabas." The chief Primitive or Ante-Nicene Fathers are Irenæus, Justin Martyr, Origen, Clement of Alexandria, Cyprian, Tertullian, and Gregory Thaumaturgus. The Post-Nicene Fathers include among others: Ambrose, Athanasius, Augustine, Basil, Chrysostom, Cyril of Jerusalem, Cyril of Alexandria, Epiphanius, Gregory of Nazianzus, Gregory of Nyssa, Gregory the Great, Hilary, Jerome, and Leo.

The study of the Fathers is sometimes called patrology or patristic. Of the individuals above

mentioned, Ambrose, Augustine, Jerome, and Gregory the Great—again naming them in the order of time—are called the four great Fathers. Augustine is admitted to be the greatest of the four, and therefore the greatest of all the Fathers. It is said of him that no single name was ever such a power in the Christian church, and no one mind ever so impressed Christian thought.

Aurelius Augustinus (354 - 430 A. D.), called St. Augustine—but who must not be confounded with the English St. Augustine or St. Austin who lived two centuries later—was a native of Numidia in Africa, son of a pagan burgess. His mother was a pious Christian, who did much to bring ultimately both husband and son into the Christian fold. In early life he betrayed an impulsive and sensual but studious disposition. He had a son, whom, in a fit of pious emotion, he named Adeodatus (the God-given). He studied at Madaura and Carthage, devoting himself especially to the Latin poets. There he divided his time mainly between study and the theater, of whose spectacles he was passionately fond. He was evidently not a Christian at this period. Habitual absence from the theater, with its idolatrous rites, lascivious portrayals, and gladiatorial shows, was then a mark of a Christian. In after life Augustine was very emphatically opposed to the theater. His aim in studying appears to have been to qualify himself for the lucrative calling of a rhetorician, in accordance with the desires of his father. He wrote in Latin but seems to have known little Greek and no Hebrew. Augustine's speculative powers were first awakened by reading Cicero's "Hortensius," in his nineteenth year. He studied philosophy,

and became a Manichæan. Manichæanism was a religion which upheld as its prophet and founder a certain miracle-working and preaching individual called Mani, said to have lived in the third century, but by some believed to be a creation of the imagination. Augustine went to Rome and engaged in his profession of teacher, thence to Milan, where at the age of thirty-two he was converted to Christianity by the preaching of St. Ambrose. In his "Confessions" he tells the whole story. He immediately stopped profane swearing and in other ways disciplined his character. He and his son were baptized. His mother joined them and was very happy. He retired to his native city and formed a small communistic religious community. Some years later he was elected Bishop of Hippo. The "Confessions," the most notable of his numerous works, was written after he became bishop. His system belongs almost entirely to the domain of theology, but his great ability as a thinker on moral questions and interpreter of revelation commands for him, even more than for his brother theologians, a place in the history also of human philosophy.

THE ARABIAN PHILOSOPHERS.

The period from the ninth till the close of the twelfth century, in reference to philosophy, has been called by some the period of the "Flight into Egypt." The most intellectual of the followers of Islam then showed a deep interest in the Greek philosophers, an interest which did much to restore the study of the latter in Europe and was the forerunner and in a large measure

the cause of the Renaissance, the great revival of Greek learning that took place in the thirteenth century. The so-called Arabian philosophers, comprising Persian and Moorish as well as Arabian teachers, rediscovered Aristotle, though in a very remote and dubious way. They were probably all in the predicament of Averroes, who, it is said, had to derive his Aristotle from an Arabic rendering of a Syriac translation of the Greek text. This, however, seemed no insuperable impediment to a class of philosophers who found it possible to be mostly physicians though their Mohammedanism closed to them the study of anatomy by proscribing dissection. Indeed, Averroes and others were wont to quote Aristotle even in physics and anatomy as a more reliable authority than Galen.[1] The Arabians, however, pursued the proper method in the study of mathematics, astronomy, and chemistry. They surpassed the occidentals in these sciences, in which there is still notable evidence of assistance rendered by them to the advantage of the world's knowledge. The Arabian philosophers passed to their philosophy generally from a severe training in these branches.

There were Al Kendi, a Persian, in the ninth century; Al Farabi, a Syrian, in the tenth century; Avicenna and Algazzali, Persians, in the eleventh century, and Abubacer and Averroes, of Moslem Spain, in the twelfth century. Passing over Avicenna, whose fame rests more on his medical canon than on his philosophical works, Algazzali is the most interesting personality, and

[1] Galen was a celebrated Greek physician who lived in the second century A. D.

Averroes the ablest and most famous teacher of the Arabian school.

Algazzali has been called "The Light of Islam," "The Pillar of the Mosque." Left early an orphan, he was confided to the care of a "sufi" or mystic. He finished his studies and became a successful professor. One day, while lecturing to his class, he was stricken dumb. He interpreted this calamity in a superstitious way, and gave himself up to asceticism. He started out to prove everything, but, finding that impossible, he came to regard life as a dream, and took refuge from skepticism in faith. He taught the desirability of attaining the ecstatic state and ultimate absorption in God by means of prayer and the practice of ascetic virtue.

The life of Averroes, like that of the Arabian philosophers generally, was troublous and persecuted. After acquiring the best education afforded by the Moslem schools, he became an attaché of the court of the Caliph of Moslem Spain. He discussed philosophy in its bearings on Islam, delighting the caliph and the wits, but earning the distrust and the opprobrium of the masses, who regarded a speculator in philosophy with the suspicion of being an infidel. His opponents succeeded in having him banished. He was again restored to favor and honor but died soon thereafter. He left several sons who rose in the service of their country.

Averroes regarded the works of Aristotle as almost revelations. His commentaries, translated into Latin, opened the eyes of the Christian schoolmen, to whom, whether clergy or lay, Greek had long been a dead tongue and the riches of Greek philosophy and poetry a thing

unknown. The teachings of Aristotle, no doubt, underwent unwitting modification as they emerged in the volumes of Averroes. The scientific spirit of the Greek master was, however, still present, and nothing was more needed by the thought of the age.

Averroes, who had learned caution from the rudeness of his ignorant countrymen as often displayed toward himself, advised that intellectual activity and scientific truth would better be confined to the class capable of enjoying them without abuse. Later writers had great respect for Averroes, Roger Bacon even placing him beside Aristotle and recommending the study of Arabic in order to attain a mastery of his works.

THE SCHOOLMEN.

And now comes what has been called "the Great Controversy," which occupied the subtlest minds for five centuries. From the ninth to the fourteenth century Scholasticism reigned supreme. There never has been a more prolonged dispute over a single question, but its especial earnestness and length were no doubt due to the fact that it early became identified in the minds of many with the more serious doctrines of theology, in particular the doctrine of the Trinity. The deductions of certain heretical philosophers, such as Roscellinus, rather than the inherent tendencies of the two opposing opinions of the Schoolmen, were responsible for this identification.

The Schoolmen or Scholastics, so called from the fact that they were mostly associated with the schools established by Charlemagne, the King

of the Franks and Emperor of the Romans, in the eighth century, took opposite sides as nominalists and realists. The nominalist said that a general term is but a name; the realist held that it represents a real thing. The question was obviously a revival of the old one originated by Plato in his theory of ideas. This renewal of an old controversy was occasioned by the publication of a Latin version of Aristotle's "Categories" together with a Latin version of the introduction that had been written by Porphyry. This kindled anew the old Greek controversy in a world which knew not Greek, showing the natural tendency of the human mind to struggle with the same puzzles and perceive the same difficulties, whatever the age or the language.

The Scholastic list opens with Scotus Erigena, also called John the Scot, who lived in the ninth century. He was a native of the British Isles, probably studied in the schools of Ireland, but does not appear to have taken holy orders. He was invited by Charles the Bald, the King of France and Emperor of the Romans, to his court in France, and was appointed head of the court school. He forms an exception to other Scholastics in his knowledge of Greek. Many works of a theological nature by his pen have come down to us, showing his superior powers as scholar and mystic philosopher. He was the first of the realists, though the question did not reach its monopolizing condition till after his day.

Roscellinus, the first great nominalist, a native of lower Brittany, was born about the middle of the eleventh century. He appears to have written nothing, and is chiefly interesting on account

of the vigorous opposition which his thorough-going and extreme nominalism and tritheism stirred up. He awoke Anselm, of Canterbury, to undertake the energetic defense of realism, just as, at a later date, Hume awakened Kant. The opinions of Roscellinus were condemned by two ecclesiastical councils and he fled from France to England to escape the wrath of the orthodox populace. He later returned to France and taught at Tours, where he had Abelard as a pupil.

Abelard, who may be said to have overthrown the realism then dominant, while yet adopting a middle course between extreme nominalism and extreme realism, is remembered as one of the ablest of debaters, and also for the dark passage in his life which links his name with Heloïse. He betrayed this young maiden, who was for a time his private pupil. She was nineteen years of age, twenty-two years his junior, remarkably learned as well as beautiful, but her disinterested devotion thereafter to the ambitious and vain Abelard, her refusal to marry him at first lest it should prevent his promotion in the church, her denial of a later secret marriage for the same reason, and her taking of the veil in order to seal her fidelity and appease his jealousy after his being mutilated by her uncle, constitute the most thrilling chapter of weakness and constancy. Abelard became a monk. In the well-known tomb at Père-Lachaise, still visited by the curious, the bones of the pair now rest together.

Abelard combined the instruction of both his masters, the extreme nominalist Roscellinus, and the extreme realist William of Champeaux. The latter, who was his second teacher, he confuted

in the great cathedral school of Notre Dame, winning his first great triumph as a dialectician. Abelard's influence was great in his own day, and two or three treatises from his pen still remain, but it is probably the thrilling current in his life's history above referred to that has done most to keep alive the remembrance of this impetuous Schoolman. With a frankness, passing frequently into boldness, he tells the story of his life in a book entitled the "History of My Calamities."

In the beginning of the twelfth century, realism was the dominant doctrine and the doctrine of the church, but in the thirteenth century a middle-course doctrine, or what has been described as a moderate Aristotelian realism, became the opinion sanctioned by authority. In connection with this change we associate the name of the learned German professor, Albertus Magnus, or Albert the Great, who has left voluminous works, but still more his illustrious pupil, Thomas Aquinas, since canonized and accredited as the philosopher of the church.

Thomas of Aquin (1227 - 1274) was the son of a count, in the territories of Naples. After finishing his studies at the University of Naples, in place of entering upon a life of luxury in his father's castle, and in spite of the opposition of his family, he became a monk of St. Dominic. He was then scarcely seventeen years of age. He attended the lectures of Albertus Magnus in Cologne, afterwards following him to Paris and becoming his associate there at the age of twenty-one. He became an indefatigable writer as well as worker for his order, traveled on long journeys, and was consulted by the Pope. He

became professor at Naples, but refused to be archbishop. His great work is the "Summa Theologiæ," which was meant to be the sum of all known learning. He is sometimes called "The Angelic Doctor," on account of the fact that he wrote a treatise "On Angels."

The followers of Aquinas were called the Thomists in contradistinction to the Scotists or followers of Duns Scotus, the English philosopher, called by his contemporaries "The Subtle Doctor." The Thomists held that reason and faith are in harmony, but the Scotists doubted the power of reason and held that there is an apparent lack of harmony as a result of that lack of power.

Next came the so-called "Invincible Doctor," William of Occam, in the fourteenth century, an Englishman and a pupil of Duns Scotus. He was a nominalist, and separated philosophy and reason from religion and faith. His treatises were put under the ban by the University of Paris. His doctrines, however, spread, and the destructive criticism by himself and his followers may be said to mark the close of the great Scholastic controversy. All had been said that could be said on that point, and said again.

ROGER BACON.

Roger Bacon (1214 - 1294), whose long life covers approximately the thirteenth century, was a notable exception to the thinkers of that epoch. He cannot be classed with the Schoolmen, and many discern in his works the beginnings of modern science. Born near Ilchester, in Somerset, England, Roger Bacon was educated at the

Universities of Oxford and Paris. At the latter he met the great fame of Albertus Magnus and Aquinas, and it displeased him to hear from their coterie that philosophy was now complete. He was particularly incensed to find physical science cultivated not by experiment as Aristotle taught it should, but by arguments deduced from premises resting on authority. He plunged himself all the more deeply into mathematics, languages, and experimental research. Having earned the degree of "Doctor of Theology," and been dubbed by his admirers "The Wonderful Doctor," he returned to Oxford, only to find his lectures interdicted by Bonaventura, the general of the Franciscan order, to which Bacon belonged. Bonaventura commanded him to return to Paris forthwith. He obeyed, and for ten years suffered penance and had to refrain from writing anything for publication. Then came the friendly command from Pope Clement IV., to furnish him with a treatise on the sciences. Much of what he wrote had been burned by the authorities, but now there was protection. The colossal labor which he performed in order to fulfill that command within eighteen months, places his three books, the "Opus Majus," the "Opus Minus" and the "Opus Tertium," among the curiosities of literature. He was fifty-four when by the influence of Clement he returned to Oxford again in good standing. He was only three years there, however, when the publication of the first part of his "Compendium of Philosophy" threw him into deeper trouble than ever on account of the outspoken way in which he rebuked the clergy and monks for their faults and lack of knowledge. The result was that he was cast into

prison, where he languished for the next fourteen years. He died about two years after regaining his liberty.

Roger Bacon held mathematics—which was discredited by his contemporaries—to be the basis of all the sciences. He said we have three means of knowledge: authority, reasoning, and experiment. He regarded authority as of no value without reason. From this he excepted the authority of Scripture and the Fathers. He held that such authority calls for assent, but must be kept separate from human inquiry. Experiment verifies reason. His "Opus," as usually published, deals with philosophy and theology, grammar, mathematics, optics, and experimental science. It also contained a part on morals. Roger Bacon's great service was to the cause of science, then in an unpromising condition.

BRUNO.

Giordano Bruno (1550-1600) is the most famous of the Italian philosophers of the period of the Renaissance. He had a wandering and exciting life which terminated at the stake in Rome, when he was about fifty years old. This philosophical and religious insurgent was vain, mercurial, and impulsive. It was probably his impressionableness that made him enter the order of the Dominicans, at the age of fifteen. Impatience of authority soon made him throw off their discipline. Branded a heretic, he endured hardship at Rome for many years, and, at the age of twenty-eight, he had to flee. He visited the principal cities of France and lectured so well on astronomy and other subjects, that he received a

call to the chair of philosophy in Paris. There was one condition, however, to which Bruno could not submit. He would have to receive the mass. The offer must have been tempting to the vagrant philosopher, but it was promptly set aside by him. He proceeded to Paris, however, in his capacity of itinerant lecturer, and when he was about thirty-three we find him in England. There he wrote his most important books. All of these are in Italian. The best-known is "The Expulsion of the Triumphant Beast," wherein a form of pantheism is taught, alongside of a ribald criticism of established forms. He continued lecturing and writing in this strain, journeyed on the continent, and at last rashly ventured into Italy. He was thrown into prison by order of the Inquisition and, after seven years' confinement, was excommunicated and executed.

Bruno is the forerunner, and, as generally believed, the inspirer of Spinoza, the pantheist, though that writer nowhere mentions his name. He is also credited with being the first to catch a glimpse of the modern theory of evolution. He was an ardent advocate of the Copernican system in astronomy. In an age when people still believed the world to be flat, he stoutly debated with the Oxford professors and others that it is round. He held that the solar system is one of an infinity of similar systems. He made the new doctrine of Copernicus the basis of everything in philosophy, much as modern evolutionists now treat the principle of evolution. The world to Bruno was the evolution of the world spirit according to the plastic substratum or matter, which is but one of the phases of that spirit. Matter is made up of minima or monads, which at one time form

a stone, at another a plant, at another an animal. These monads are spherical and essentially the same in all these objects. Still Bruno shrinks from the mechanical theory which would seem to most minds to be an alternative statement.

CAMPANELLA.

Contemporary with Bruno, but a little younger, we have another noted Italian philosopher, Tomaso Campanella, who also started at fifteen as a Dominican monk. Though professing in religion complete submission to the established faith of Rome, he was in philosophy an insurgent of the most radical type. His theory of the world was pantheistic, and of the state, as sketched in an allegory, communistic. He passed thirty years of the prime of his life in prison on account of his boldness of thought.

PART III.

MODERN PHILOSOPHY.

FRANCIS BACON.

Francis Bacon (1561 - 1626) had the titles of Baron Verulam and Viscount St. Albans, but, contrary to common custom, these names are never used in denominating the distinguished philosopher. His family name early became his *nom de plume*, and the one which was to live in history. His father, Sir Nicholas Bacon, was a famous statesman and lawyer, lord keeper of the great seal in the reign of Queen Elizabeth. Francis, no doubt, inherited much of his wisdom and eloquence also from his mother, who sprang from a race of scholars and was herself a woman of classical culture. This youngest son of the high officer of state is said to have shown, when a boy, a precocious wisdom so that even Elizabeth delighted to question him, and, in compliment for his grave and mature answers, called him her "young lord keeper."

Francis Bacon received his academic education at Cambridge University and came away from there dissatisfied with the science of the day both in its methods and in its results. He thereafter traveled on the continent. He was eighteen years old when his father died, and he had at once to leave off foreign travel and adopt a profession in order to earn a living. He chose the law. Conscious of power and great in ambition, he felt that as a means to attain his aims

all he needed was an office, and a great part of his life was spent fruitlessly in a humbling search for one. He was entangled with private debt all his life, partly owing to generous living and poor management of such income as he had, and partly, it is said, owing to the dishonesty of his most trusted domestics. It is sad to think of the means to which he at last stooped in order to enable himself to follow his lofty ambition, which is said to have been no less than a threefold benefit—to his race, his country, and his church.

Bacon at thirty found a friend in the Earl of Essex, who three years thereafter tried to get him the attorney-generalship and later the solicitor-generalship. Failing in both cases, Essex presented Bacon with a piece of land worth about £1,800. But Bacon's finances went from bad to worse. He was arrested for debt, and was discarded by Essex, some say because he gave the earl wholesome but unwelcome warning anent the latter's own headlong course towards treason; others say because the earl perhaps grew tired of a man whom no assistance could enable to succeed. Essex afterwards was accused of heading a conspiracy whose purpose was to dethrone the queen. He was arrested, tried, and executed. Bacon was one of the prosecuting counsel, and at the trial he made a speech pointing out the guilt of his former friend and benefactor. His contemporaries generally and others never forgave Bacon for thus insulting a precious sentiment even though assisting in vindicating justice.

What Bacon wrote about the sovereignty and prerogatives was very pleasing to Tudor and Stuart, and it was probably sincere. Bacon was forty-six years of age before he got office; but he

rose by gradation from solicitor-general to lord chancellor. Three years after attaining the latter distinction he was degraded from office on the charge of corruption. He admitted receiving gifts from litigants but denied that these gifts had influenced his decisions. This denial was borne out by the fact that he frequently decided against the donors, and such of his decisions as have been traced appear to be just.

The rest of Bacon's life was the period of his greatest literary activity. His philosophical productions are arranged mostly under the general title of "Instauratio Magna" or "The Great Renovation," which gives the reason for and the description of the new method proposed by him for pursuing scientific investigation. Bacon is generally considered the father of modern science because he sounded more distinctly than any other the trumpet call to a new method. He advised that nothing should be taken for granted, and that knowledge should proceed upward from particulars to more particulars and thence to general truths, the method of reason known in logic as induction. In the Aristotelian method of reasoning down from the general principles syllogistically—the deductive method—Bacon seemed to perceive almost no value except for disputation. We must begin anew, he said, we must collect facts, and, by a continual process of "exclusion," we can get the common essentials of any set of facts relating to any object and thus rise to a general statement. Every general truth must then be tested and verified by experiment.

Though not a scientific man, Bacon thus pointed out the method for science in all but one important particular. He did not see the value

of hypotheses. The true scientific process, as illustrated by three centuries of science, has been (1) investigation, and collection of facts, (2) forming a hypothesis or general supposition from these facts, (3) testing the hypothesis by experiment or comparison with particular cases, and (4) accepting or rejecting the hypothesis. Thus step by step science builds upwards, following always the same process. Thus deduction must go hand in hand with induction. Bacon's eloquent appeal, however, brought to view the dignity of the search after details, the necessary preliminary of all scientific progress. Here was a great idea that transformed the thinking world, an idea of which glimpses had often been caught, but which history shows that the human mind can with difficulty follow, for this idea demands the utmost from the virtues of patience and intellectual humility. There is no mental satisfaction comparable to that of grasping a general truth, and we are ever apt to think we possess such a truth before it is rightfully ours, and thus to enjoy in the illusion the satisfaction to which we are not entitled in the reality.

Bacon gave the best expression of the hunger of his age for a method by which physical science might progress. The great thought in the Baconian philosophy is summed up as the method of inductive reasoning, but the books and essays abound in details of the deepest interest and wisdom. Though not wholly original, his famous classification of the "idola" or principal causes of error may be placed among these. The idola are four: (1) the idols of the tribe (*idola tribus*), which are race errors or the natural tendency to prejudice or preference in the human

mind; (2) the idols of the den (*idola specus*), which consist of individual errors, individual peculiarities of mind that give rise to a distorted view; (3) the idols of the market place (*idola fori*), due to the influence of language and words; (4) the idols of the theater (*idola theatri*), or errors resulting from received systems of philosophy and from wrong methods of proof. Each in a word, the four groups of error may be approximately stated as (1) racial, (2) individual, (3) linguistic, and (4) logical, errors.

DESCARTES.

René Descartes (1596 - 1650), the father of the so-called Cartesianism, a most notable movement in modern philosophy, was born at La Haye, in Touraine, France. His school days over, he became a volunteer in the Dutch and afterwards in the Bavarian army, in the latter of which he saw active service. He thereafter made a peaceful tour through several neighboring countries, and then, when about thirty years old, settled down in Paris, with a modest income derived from money bestowed on him by his father. He took a deep interest in optics and lens-making, which, it may be noted, was at a later date the trade of the great Cartesian, Spinoza. At this time, also, he was speculating with intensity on the sublime subjects. A cardinal suggested this work as his true mission, and he adopted the suggestion. The last twenty years of his life he spent in Holland in study and the writing of philosophical works. Three years before he died his resources were augmented by a pension of 3,000 francs from the French king.

The latter part of his life was easy and peaceful, suitable for his meditations. He went regularly to mass, slept long, and followed a simple and even abstemious dietary regimen. He died in Stockholm while a guest of the Swedish court. Descartes wrote many books, the principal of which are the "Discourse of Method," and the "Meditations."

The method of Descartes has been called the subjective method, while that of Bacon is rather the objective method. Descartes advises us to turn the eye inward. Like Bacon, he dwelt upon the necessity of beginning anew, in order to establish step by step the structure of knowledge. The first truth on which all others rest he found to be the fact of his own existence. "I exist" or "I am conscious" must stand before every other proposition. It is the first thing we can assert and therefore the first truth of scientific inquiry. "I think, therefore I am,"[1] is the famous saying of Descartes; but he expressly states it must not be taken as the conclusion of a syllogism but itself precedes the major premise. Existence of oneself is proved to oneself by self-consciousness. Some have objected to the aphorism by saying: "Why not say, 'I walk, therefore I am.'" Descartes said, in answer, that consciousness is necessary first. "I am conscious of walking, therefore I am"; so the introduction of the idea of walking would be secondary and superfluous.

The next step in the edifice of knowledge as raised by Descartes is the proof of the existence of God. He used three main arguments: (1)

[1] In Latin, *Cogito ergo sum;* in French, *Je pense donc je suis.*

causality, (2) the existence of an idea of God in our minds, and (3) that the finite is impossible without the infinite, the infinite being the positive thing and the finite the negative thing, the limitation. He said that the existence of a God of truth is the only guaranty of the truthfulness of our intuitive ideas.

Descartes approved Bacon's method in natural science. He was a diligent student of mathematics, physics, and anatomy, expecting to find in the brains of animals, by dissection, hints of the psychic processes. Descartes was the first to enunciate the startling doctrine, very convenient to vivisectionists, that animals are mere automatons.

LATER CARTESIANS.

The two most important names among the successors of Descartes in his school of thought are Malebranche and Spinoza. Nicolas Malebranche (1638 - 1715) was a Frenchman and a Catholic priest; Benedict (or in Hebrew, Baruch) de Spinoza (1632 - 1677) was a recluse scholar of the Jewish race in Holland. Both had a great admiration for the speculations of Descartes.

Malebranche deduces from his master a view of the Deity bordering on pantheism. He, however, recognizes the existence of a material world independent of our consciousness, though only the ideas supplied by God are perceptible to us, whether through the intellect or through the senses. The soul and body being so different in nature and substance can hold no communication with each other. The Deity, accordingly, enables the one to act on the other by a new miracle performed by Him on the occasion of

every volition of the soul. This is called the theory of "Occasional Causes." This theory of Malebranche, evolved from Descartes' philosophy, was adopted by many subsequent Cartesians. It was with difficulty that Malebranche could reconcile the Cartesian doctrine that the individual is only a negation and the infinite the only reality, with the standards of ecclesiastical authority to which he was bound.

Spinoza, who had no reconciliation to make, accepted the full consequences of the Cartesian logic, which swept him into pantheism. Spinoza employed his great reflective powers in proving the unity of all things and that the finite is but a mode of the infinite, the latter and not the former being the great reality. Spinoza was expelled with curses from the Jewish church, and his principal writings were placed on the Index of forbidden books by the Roman Catholic authorities. He braved dangers and difficulties, refused university chairs, and lived his short life in self-denial in order that he might devote himself to philosophy. He was reviled by his contemporaries as an atheist, a term which a later critic changed to acosmist (no-world-ist). "A God-intoxicated man" is the next verdict, and finally comes the tender tribute of Schleiermacher, the Christian theologian, who speaks of this greatest pantheist as "the holy and excommunicated Spinoza."

LEIBNITZ.

Gottfried Leibnitz (1646 - 1716), who was, in his day, also a notable statesman of Germany, is remembered mainly as the propounder of the doctrine called the "Pre-established Harmony."

He discarded the Cartesian theory of "Occasional Causes," the theory which required a special miracle from God for every separate action of any of His creatures. Leibnitz thought this was demanding too much of the divine miraculous power, and taught that there is between mind and matter a harmony pre-established by the Deity, or, to use his own famous illustration, mind and matter correspond in their activities similarly as two clocks wound up together to keep exactly the same time. Leibnitz also formulated the theory of monadology. He taught that the monads are the elements of things, whether mental or physical, but they have no dimensions. They are rather the essences or souls of things and differ only in activity. Every monad is a microcosm, the universe in little. Leibnitz is replete with detail in elaborating this deeply mystic hypothesis.

HOBBES.

Thomas Hobbes (1588-1679) belongs to the insurgent class of thinkers and his works have been much condemned on account of their materialistic strain. He was an Englishman by birth and education, taking his bachelor's degree at Oxford when twenty years of age. For the first forty years of his long life his powerful intellect did not bestir itself to any noteworthy degree. Private tutoring to the families of the Earl of Devonshire and other gentry occupied him mainly during that period. He was a classical scholar and a mathematician. One of his earliest works was a translation of the Greek historian Thucydides. His mathematics was specu-

lative and faulty, and it was not until he turned his mind to political and mental questions that he achieved an inconvenient fame that placed his liberty in jeopardy at intervals during the latter part of his life.

Hobbes was over sixty years of age before he produced his great political work, "The Leviathan." In this book he discoursed of the state under the metaphor of a great monster whose body is made up of the people of the nation. He included in the book some speculation on metaphysics, and he also wrote treatises on liberty, human nature, etc. Hobbes was a clear and brilliant writer. His dogmatic nature was amusingly illustrated in a series of controversies in which he engaged with an Oxford professor of mathematics. Hobbes was a factor in the reconstructive period, fully imbibing the spirit of Bacon, with whom he appears to have been personally acquainted. He makes psychology a science of observation, and, by giving the foremost place to the knowledge we acquire through the senses, he became the precursor of the modern sensationalists (those who hold that ideas are founded entirely on sensation). He clearly points out an important truth, till then hardly recognized, namely, that sensations are merely modifications of the thinking mind, and are therefore, of course, not qualities of the objects without us. He describes the important part the association of ideas plays in memory.

Hobbes is the author of some trenchant sayings, among which is the oft-quoted aphorism: "Words are wise men's counters; they do but reckon by them; but they are the money of fools."

LOCKE.

John Locke (1632 - 1704), probably the most widely read and most popular of writers on philosophical subjects, is a representative of the best type of the thoughtful English gentleman and scholar. He was born in Somersetshire, the son of a country lawyer. He was educated at Westminster School and Oxford University. He studied medicine but never graduated as a physician. He practiced the profession, nevertheless, at different times, and was commonly called "Doctor Locke." He became interested in politics, and rose through several private secretaryships to be Secretary of the Board of Trade when forty-one years of age. At fifty-two Locke took up his abode in the great asylum of all persecuted thinkers, Holland. His tolerance and freedom of opinion and the fall of his patron, Shaftesbury, had by that time rendered it safer for him to keep out of England.

Locke's career as an author began when he was fifty-four. He had taken a long while to mature, but none wrote in a more calm, deliberate, and unpretentious way, impressive of wisdom and honesty. Six years later he followed the Prince of Orange to England, and when the prince became king, Locke was presented with a modest political office. Locke was fifty-eight years old when he completed and published the "Essay Concerning Human Understanding," a matchless production which has been the delight, not only of philosophers, but of intelligent people everywhere. Locke also wrote treatises in defense of popular sovereignty and religious liberty. A large number of letters were written

by him in answer to controversialists. In fact, all he wrote on the understanding, on government, on education, or such works as the "Reasonableness of Christianity," had unusual power of drawing fire, to judge by the number and variety of his critics and their onslaughts. In the midst of all, at home or in exile or in his last idyllic retirement at Sir Francis Masham's beautiful country seat in Essex, he preserved the equanimity, good temper, and good sense of a well-balanced Anglo-Saxon mind. The last four of his seventy-two years were spent in religious and philosophical repose and meditation.

Locke rested philosophy, even the ultimate principles and categories, on sensation and perception. He thought reason could by its processes and the aid of these two powers accomplish everything in philosophy without the aid of innate ideas. He held that God, individual identity, and morality are demonstrable in reason, while the dogmas of Christianity are also worthy of acceptance on the rational ground of probability. This rejection of the mysterious, and opposition to the claims of blind faith, gave rise to the criticism that Locke's principles led to skepticism; but, if they did, he left it to others at a later date to push them there. He himself had no liking for such inferences.

No man of such wide influence in philosophy seems to have read so little as Locke. It is doubtful if he was acquainted with anything more than the names of even illustrious contemporaries like Hobbes. Some have argued that this was an advantage to his simplicity and originality, he having thus "raised himself above the almsbasket and, not content to live lazily on

scraps of begged opinions, set his own thoughts to work to find and follow truth." This independence would have been fatal to any but a very extraordinary man's value in philosophy or science, and even at the best the cost must be greater than the gain.

Locke caught the fire from the pages of Descartes, which glowed to him with special splendor. Laying the foundations of the mind in "sensation" and "perception," Locke analyzes these; a thought derived from sensation may be simple or complex. Color is an example of a simple thought. Space, extension, and motion are perceived by the eyes and by touch, and so are complex. Reflection supplies a third class of thoughts, as when "the mind turns its views inward upon itself." The ideas of thinking and willing in all their phases come from reflection. Matter has primary and secondary qualities. The primary qualities belong to the body and exist apart from us; the secondary qualities are mere sensations in ourselves and, though they have causes in the objects without, these objects possess nothing similar to what we experience, that is, to the sensation. Extension and motion are examples of primary qualities; color, heat, and cold are examples of the secondary qualities.

These opinions are said to have led to idealism in metaphysics, and the doctrine that "all we know is phenomena and their laws," a doctrine which since then sprang up and has become very widespread. Locke, however, regarded the existence of matter as a necessary inference. He stated, but apparently independently of Hobbes and less completely, the theory of the association of ideas.

CONDILLAC.

In France the Abbé Condillac (1714 - 1780) formulated a philosophy on similar lines to those of Locke's. He is also famous, however, on account of his writings on political economy, which appeared almost simultaneously with those of Adam Smith, the Scotch professor and the first of the great economists in Britain. Condillac and his followers are called sensationalists or exponents of sensationalism because they hold that all our ideas are derived from sense impressions.

BERKELEY.

George Berkeley (1685 - 1753), Bishop of Cloyne, in Ireland, developed the philosophy known as idealism, and, in so doing, performed a service which some one had to perform, and which has been of much value to succeeding thinkers. Born in Ireland, and educated at Dublin University, he entered the ministry of the Anglican Church and became successively a deacon, a chaplain, and a dean. At the age of forty-three he married the daughter of a judge. He went to America to try to realize a favorite project of founding a college in the Bermudas, sacrificing £1,100 a year for £100, but, aid not coming from the government as he had expected, he returned to England with his family after three years, and was soon raised, at the age of forty-nine, to the position of Bishop of Cloyne.

Berkeley was an earnest student of Descartes and Locke, and he, no doubt, found in the latter's theory regarding sensation the principle from which he evolved his idealism. He showed that

the mind is always occupied with its own processes, sensations, and ideas, and therefore could not possibly know that material objects exist. He said that the existence of matter is simply an unwarranted inference from our sensations of color, heat, cold, sound, etc., and therefore matter is a mere figment of the imagination. He said that these sensations that we have nevertheless have a cause and that this cause is not an unknowable thing called matter, but the action of the divine mind on our minds. The finite mind can have no relation with anything except thoughts, and only because all permanent objects are thoughts in the infinite mind are we enabled to come into relation with them or knowledge of them at all.

There have been more writers subsequently willing to admit the force of Berkeley's destructive criticism than of his constructive argument.

HUME.

David Hume (1711 - 1776), famous both as philosopher and historian, but principally as the former, was born in Edinburgh, Scotland. His father was a small landed proprietor, and his mother the daughter of a prominent jurist. His mother was early widowed. She carefully trained her three children, of whom David was the youngest. We infer from his "Life" and certain letters that he spent about three years as a student at Edinburgh University. He passed a few years at the family country house, Ninewells, commenced the study of law, abandoned it, and at the age of twenty-three went to Bristol with his testimonials to seek a mercantile situation.

Failing to get employment, he paid a three years' visit to France. He was twenty-eight years old when he first appeared as an author, the work being the "Treatise of Human Nature." Two years later appeared the "Essays." Hume was now living in retirement at his brother's house, Ninewells. He tried to get the chair of moral philosophy in Edinburgh, but failed. He thereafter passed from tutorship at home to private secretaryship abroad, settling again at Ninewells, and finally becoming librarian of the Advocate's Library in Edinburgh. This office gave him opportunity for research, but the salary attached to it was very small and is said to have been generously bestowed by Hume on a poor poet. Eleven years later he became secretary to the English embassy in France. When he returned to Edinburgh the income from his writings, augmented by a civil pension, amounted to the handsome revenue of £1,000 a year. Hume then set up an establishment of his own, but never married. He was personally a man of very genial disposition and his company was much sought after. When death came, he met it with a cheerful fortitude.

In philosophy Hume carried the subjective method to the most daring extreme. He approved the destructive criticism furnished by Berkeley, and attempted nothing constructive. Hume finds nothing but conscious experience, and hence says that all we can aver of mind is the sum of its conscious experiences. To these he gives the names of "impressions" and "ideas." The primary experiences are the impressions, and the secondary experiences are the ideas. Hume therefore held, in opposition to Descartes and Berkeley, that through the instrumentality

of reason we cannot prove the existence of God, of the self or ego, or of matter. The categories of time, space, free will, causality, individual identity throughout life, etc., also have no authority in reason.

Hume's challenge was a broad one and attempted to place the burden of proof of everything whatsoever anew upon the inquirer. The narrowness of his classification of the primary contents of consciousness, restricting them to sensations, has gained for him and his followers also the name of sensationalists. Hume argued against the possibility of free will by saying "action without a motive is impossible," and that free will, when we define it, means action without a motive. Hume stated his system as a dogmatic philosophical skepticism rather than as a philosophical agnosticism, which is obviously all it could be.

THE SCOTTISH SCHOOL.

The Scottish or, as it is often called, the Common Sense school of philosophy, began in Scotland with Thomas Reid (1710 - 1796), was continued by his pupil, Dugald Stewart, and met with much favor in France, particularly among the so-called Eclectics, of whom Victor Cousin was the most prominent. The learned Edinburgh professor, Sir William Hamilton, who flourished in the middle of the nineteenth century, was also an expounder of the same teaching, to which, however, he added many points of a striking character. The new system was, in its main features, a protest against Berkeley's idealism and Hume's skepticism. The title of Reid's first

great book, "An Enquiry into the Human Mind on the Principles of Common Sense," shows the mainspring of the new movement.

Reid was born near Aberdeen in his father's manse. His ancestors for many generations were principally Presbyterian ministers. He received his education at Aberdeen and, after graduating, held the office of university librarian for ten years. After that he became a minister. An essay from his pen, opposing the theory that moral subjects could be dealt with on the same method as mathematics, appeared in the "Transactions of the Royal Society." Reid's reputation as a metaphysician grew apace, and four years later, in 1752, he was elected to the chair of philosophy at Aberdeen. Twelve years thereafter he succeeded Adam Smith, the celebrated writer on political economy, as professor of moral philosophy in Glasgow. This was also the year in which the "Enquiry" appeared. Reid married at the age of thirty, and died at the age of eighty-six, having survived all his children but one daughter.

Reid said that Hume's skeptical position was attained by correct reasoning, but started from a wrong principle. This principle he declared to be that "all the objects of my knowledge are ideas of my own mind." He said that Descartes originated this error, Locke and Berkeley developed it, and Hume brought it to fruition. Reid argued that we are able to rise above the merely subjective states of consciousness and obtain direct knowledge of reality by common sense or natural judgment. To the phrase "common sense," Reid ascribed, no doubt, much the same meaning as the phrase commonly conveys in ordinary speech. Much has been written to de-

fend Reid against this interpretation, which seems like an appeal from reason to vulgar unreason. Reid apparently makes "common sense" to consist of innate judgments or, as he calls them, "judgments immediately inspired by our constitution." These judgments he likens to the language of the mind, and thus reposes philosophy on the same foundation as that on which he finds "the structure of all languages" is grounded." Reid argues against reducing all our knowledge to sensation by showing that sensation and perception are so far different that the more the sensation the less the perception, and *vice versa*, as is best shown in the familiar experiment of applying the two points of a pair of geometrical dividers to the back of the hand and the tip of the index finger, or to the back and to the tip of the tongue. He holds that sensation and perception are absolutely distinct in kind, and that although perception does not occur without sensation preceding or accompanying it, yet perception does not proceed out of sensation. A close parallel has been found between the Scotch "common sense" and the "categories" of Kant.

Dugald Stewart was a very eloquent man in his Edinburgh class room. Among his students were many who later became famous—including Sir Walter Scott, Lord Jeffrey, Sydney Smith, Lord Brougham, Dr. Thomas Brown, James Mill, and Sir Archibald Alison; but it would be too much, of course, to credit the special brilliancy of the pupils to their early instruction in the exhilarating Reidian doctrines.

Sir William Hamilton was descended from professors in several generations, as Reid from

ministers. His classical and philosophical erudition was extraordinary. His great reputation attracted students from all parts of the earth to his class in the University of Edinburgh. Mill's criticism pillories him as a sort of Platonic mind, brilliant and ingenious, but not holding with a firm grip to any one position. Mill is impatient of inconsistency in Hamilton but tolerant of what he believes to be absurdity in writers like Leibnitz. Experience shows that the jagged Scylla and the yawning Charybdis of every great system of philosophy are inconsistency on the one hand and absurdity on the other.

Sir William Hamilton's lectures are rich in illustration and allusion, and contain splendid statements of numerous philosophical ideas. He used the term "belief" in place of the designation "common sense," and on belief he based the direct knowledge of the external world. By belief we arrive at the ideas of time, space, cause and effect, etc. These ideas are the forms of our thought which make direct perception of the material world possible. Belief is classed by Hamilton as a kind of knowledge, and not defined in the usual way as conviction based on probability but falling short of actual knowledge. By means of the beliefs above referred to we perceive in matter such qualities as extension, figure, divisibility, etc., the primary qualities of Locke. These Hamilton described as modes of the non-ego or not-self, while the secondary qualities, color, heat, and other sensations, which are commonly allotted as qualities of matter, are described as modes of the ego. The freedom of the will, like infinity of time and space, is rested upon belief, because both determinism or necessitarianism (the doctrine that the

will is not free) and indeterminism (the doctrine that the will is free) are inconceivable.

Sir William Hamilton's philosophy has sometimes been called "the philosophy of the conditioned," on account of his phase of the doctrine of the essential limitation of the human faculties. He postulates the unconditioned as the genus of which there are two species: the infinite and the absolute, or, as he describes them in the above connection, the unconditionally unlimited and the unconditionally limited. Time and space, in their infinity of extension, are examples of the first, and in their infinite divisibility are examples of the second. The self-destroying character of the most comprehensive ideas, as alleged by Hamilton, is made by him the excuse for resigning so much as knowledge to take it back as belief. Hamilton, while a man of religious faith and the most popular philosophical teacher for men of faith, has been much borrowed from by the agnostic school, who accept his doctrine of the unknowable but fix much narrower boundaries for the field of belief than he was inclined to demand.

DR. THOMAS BROWN.

One of the most noted Scottish philosophers was Dr. Thomas Brown, who, however, was an opponent of Reid. Brown was the author of one of the most successful works on metaphysics ever published—"Lectures on the Philosophy of the Human Mind." It went through nineteen editions in Great Britain and even more in America. He was the successor of Dugald Stewart in the Edinburgh professorship. The great success of

this book was probably due to the poetical and florid dress in which he arrayed his views on philosophy. His work aimed to show that the philosophical skepticism of Hume was not to be confounded with religious skepticism but could exist, even more conveniently than could a dogmatic realism, alongside of a divine revelation. Berkeley's, by comparison with Hume's, was a system of natural theology.

KANT.

Immanuel Kant (1724 - 1804) was in metaphysical speculation one of the most powerful and prolific masters that the world has ever seen. His life was quiet and uneventful. The son of a saddler in Königsberg, he received his school and college education in this his native city. He was intended for the church and even preached in his student days, but never became a licentiate. The death of his father and his own uncertainty as to the choice of a profession led him to take up private tutoring for a livelihood. After nine years of this kind of life Kant presented himself again to the university authorities and received the doctorate. He was forty-two when he got his first steady position as under-librarian in the university of his native city. In 1770 he obtained the professorship of logic and metaphysics there. Meantime his pen had been busy, and his splendid reputation throughout Germany attracted students from all quarters. Kant's treatise on religion aroused the fears of the Prussian government, and for many years he kept silence on religion, owing to a promise exacted by the cabinet. Though living a solitary, studious life,

he was a man of graceful manners and a hearty conversationalist. He never married, and his nature was probably somewhat lacking in sentiment. He lived almost to complete his eightieth year.

Kant wrote on physical geography, astronomy, and ethnology, as well as on metaphysics. The retardation of the earth and moon by their mutual attraction, the "nebular hypothesis" in explanation of the formation of systems and planets, and the theory of periodic winds as due to the varying velocity of the zones of the earth's surface are some of his valuable contributions to thought on physical science. The list of his works on metaphysics is a formidable one, as is also the style in which they are generally written, turgid with a copious and novel terminology. The "Critique of Pure Reason" is his masterpiece and best-known book. Then come the "Critique of Practical Reason," the "Critique of Judgment," and the "Foundations of the Metaphysic of Ethics."

Kant had a wide knowledge of a great variety of subjects, but in his chosen domain he seems to have confined his study mainly to his immediate philosophical predecessors, Locke and Leibnitz. In his earlier writings he evolves knowledge from the categories, without endeavoring to explain from what these arise. Roused by the skepticism of Hume, he sought for an explanation and broached the theory of transcendentalism. Knowledge, according to Kant, is a product of two factors, one factor furnished by the subject or self, the other factor given to it; the one is the *a priori*, antedating experience, and the other the *a posteriori*, coming later in experi-

ence. Space and time, to Kant, are not demonstrable but are the necessary forms of thought. The identity of the ego, the principle of causality, and the freedom of the will are not demonstrable, nay, are not even comprehensible; they transcend our intelligence but yet symbolize great realities without which thought, memory, and morality could not exist. The Deity is also a transcendental ideal but none the less representative of reality. Three transcendental ideas which he regards as of great importance to morality are the immortality of the soul, free will, and the existence of an intelligent ground of things. He says reason, unaided by revelation, fails to prove these and the understanding fails to grasp them, but these transcendental ideas are equally unsusceptible of disproof and are warranted in consideration of their moral importance. A well-known moral maxim of Kant's is "Act so that the maxim of your conduct may be fitted to be a universal rule." Kant, in his "Practical Reason," accepts teleology, the argument from design—especially moral design. "The world," he says, "must be represented as having originated from an idea, if it is to harmonize with that use of reason without which we should hold ourselves unworthy of reason—viz., the moral use, which rests entirely on the idea of the supreme good."

FICHTE.

Johann Gottlieb Fichte (1762 - 1814) produced a philosophical system that may be said to have been the offspring of Kant's and to have become the parent of Schopenhauer's. At the conclusion of his education, which he owed to the kindness

of a nobleman in his native Lusatia, he began to read Kant's books and discovered at once a master and a vocation. Fichte's diary records the touching story of the poverty-stricken scholar seeking out the renowned philosopher Kant, meeting at first with a cold reception but winning at last, by a transcendental essay, the recognition and esteem of the great critic. Kant recognized at once in Fichte an apt disciple, one whose grasp of the Critical Philosophy was so thorough as to make him a worthy co-worker in developing it. This essay by Fichte treated of the relation of Kantianism to revelation. Kant immediately proceeded to find a publisher for the essay. It was printed but, by some accident, the author's name was omitted from the first edition. The world hailed the book as undoubtedly written by Kant, so like was it in its doctrine and in its metaphysical acumen. Kant immediately corrected the mistaken impression as to authorship and, at the same time, bestowed high praise on the work. Thus at one bound Fichte leaped into fame.

At the age of thirty-one Fichte became a professor at Jena, where he had received his university training. In 1799 he was charged with atheism and resigned his professorship. His proud spirit would not stoop to any explanation, but in his later writings he declares "the knowledge and love of God the end of life." His "Way to a Blessed Life," and other works of his maturest years exhibit a different spirit from that which, as was charged, could regard God as only "the eternal law of right." Fichte spent the most of his life thereafter in Berlin, writing and lecturing.

The transcendentalism of Fichte has been called "Practical Idealism," so insistent is it on the paramount nature of the will in the ego or self. It regards the ego as pure activity. The external world or non-ego is accounted for by this statement: "The ego posits itself as determining the non-ego." According to Fichte, the will of the individual stands first. It looks on itself, sets limits to itself, makes of itself an ego, and then, with the assistance of this ego, makes the non-ego. This is idealism, but the idea of the will and the power of will is here given a place that Berkeley never thought of giving to it. This thought of the will is a development of the Kantian philosophy which laid so much stress on the practical side of life. Fichte's speculations obviously tended at an early stage to transfuse themselves into ethics, to which department he devoted special attention. He wrote much on duty. He declared duty to be the only proper motive. In 1800 he announced his doctrine of the absolute ego, the infinite will of the universe. He held that each will is a manifestation of this absolute will, which can never be known in its purity, but only as broken up. This doctrine brought Fichte close to the position of Schelling, of whose form of idealism we will treat in the next article.

Fichte, accordingly, had really two systems—an earlier and a later; the one of a very individual, and the other of a very general character. It is his early egoistic idealism, severe in its consistency, that has made the most powerful impression.

Fichte, the forerunner of the thoroughgoing Pessimists, held that the world is independently

bad but affords a worthy object on which the will of the ego can exercise itself. The doctrine of the will more emphatically taught by Schopenhauer is mostly admitted to be directly borrowed from Fichte, though Schopenhauer was inclined to look with disdain on the general scheme of Fichte.

SCHELLING.

Friedrich Wilhelm Joseph von Schelling (1775 - 1854) was an eminent thinker who gave a further development to the Practical Philosophy which Fichte had elaborated from the system of Kant. Like Fichte, he was for a number of years a professor at Jena, and he made that university in its most noted days, at the beginning of the nineteenth century, an attractive center for all philosophical inquirers. Schelling was reared in luxury. He was a precocious boy, speedily outgrowing every school to which he was sent. He went to the University of Tübingen at the unusually early age of fifteen. Hegel at that time (1790) was still a student there. At nineteen Schelling published an essay which made him famous and won high commendation from Fichte, whose ideas it expounded. Other writings followed, and at the age of twenty-three Schelling entered on his career of professor at Jena, where Fichte was also still teaching. He was next called to a chair at Würzburg, and at the age of thirty-one went to Munich, where he led a retired life for thirty-five years. He thereafter made his headquarters in Berlin, where his long and most productive life came to a close.

Schelling's philosophy, while appropriating the Fichtean conception of the will as the sub-

stance giving rise to the varied appearances that we call the world, did not ascribe the same measure of power to the individual will or ego as Fichte's philosophy did. It took from Spinoza, of whom Schelling was a most admiring student all his life, the idea of the Absolute, and combined this idea with the main idea of the Practical Philosophy. The ruling doctrine of the Schelling system may be thus stated: The ego produces the non-ego, but not by its own force, not out of its own nature, as Fichte would have it; it is universal nature working within us which produces the non-ego. The world, according to this view, is still the creation, the realization of spirit, not our own spirit, but the absolute. Schelling's transcendental idealism thus ascribed a less important place to the ego and assigned a more definite office to the absolute than Fichte's did. Schelling presumed a more definite function for the infinite will of the universe. For this he acknowledged an obligation to Spinoza. This combination of the systems of Fichte and Spinoza, propounded by a man possessed of great emotional nature, won the favor of the so-called Romantic school of which Schlegel was the most noted member.

An important doctrine of Schelling's is that of polarity. Schelling noted in everything a polarity, two opposites or poles, and illustrated this idea from chemistry, in which it is a familiar phenomenon. Beneath this polar opposition, which seems to have suggested the subsequent Hegelian doctrine of contraries, Schelling found the identity, the absolute which underlies all difference, a doctrine which suggests the "unity" in Hegel.

HEGEL.

Georg Wilhelm Friedrich Hegel (1770 - 1831) is one of the greatest names of the German transcendentalism, which had vogue in the early part of the nineteenth century. He was the son of a civil official of Würtemberg, and his education was accomplished in his native Stuttgart and at the University of Tübingen. His student career gave no great promise, and though he qualified in theology he was a failure as a preacher. His comradeship with Schelling at the university probably awoke the slumbering philosophic faculty. He completed his course at the university and became a private tutor. His first effort in literature was a heterodox but religiously symbolizing life of Christ. Hegel read diligently the contemporary literature and kept a copious scrap-book, which he filled with extracts from books and newspapers. He lectured one winter at Jena to a class of eleven students. He was an editor for a little over a year, and at length became a schoolmaster in charge of a so-called gymnasium, or higher school, in Nuremberg. In this position he remained eight years. At forty-one he married a young lady of nineteen, who proved to him an excellent wife. They had two sons, the elder of whom became a distinguished historian. Meantime Hegel's fame as a writer on economics and philosophic subjects had been rising, and in 1816 resulted in his appointment to a chair in the University of Heidelberg. Here he had classes ranging from four to thirty students. It was here that he brought out his "Encyclopædia of the Philosophical Sciences." After two years' teaching at Heidelberg he succeeded

Fichte in the chair of philosophy at Berlin. Hegel died from the cholera plague which swept over Germany in 1831.

The name of Hegel is connected with the most startling doctrine that ever was enunciated by a man of undoubtedly great intellectual power. That doctrine, which constitutes the principle of the Hegelian method, is the paradox: "the identity of contradictories." Perhaps this principle may be vulgarly described as the expression in philosophy of the common observation "extremes meet." Hegel applies this principle to the origin of all things and makes these the offspring of the two most comprehensive extremes: Being and Non-being. He likens Being, Non-being, and the world of experience to three links in a circular chain. It takes three links at least to make an endless chain, and nothing but an endless chain could persist as does the universe in eternal indestructibility. How then do Being and Non-being, which Hegel declares are in their ultimate significance identical, produce the world we know? We feel that we must be dealing with profoundly mystical symbols when we stand with Hegel in his *sanctum sanctorum* and endeavor to see with him the vision of creation. He tells us that Being passes into Non-being and "enriches" itself, and becomes a third thing, the existence we know. In support of his dictum of the identity of contradictories, he says every conception is one-sided, passes to its opposite, and attains unity in a third, which last is the practical conception available for our use. Pure light is the same as darkness; we cannot see it nor anything composed of it, but passing into darkness it returns "enriched," breaks up into color, and becomes

visible. Without a contrary nothing could come into being, and contradiction forms the essence of everything. Truly, there is a great thought lurking in these propositions, but its necessary qualifications and limitations would apparently completely transform it. Hegel adopted the doctrine of "flux" taught by the ancient Greek philosopher Heraclitus—that everything is in a state of flux, that nothing is, but only "becomes"; Being is only a current term for what is more properly described as "becoming." Nothing is ever fixed and definite. All is but a passing moment and an immanent movement. True Being would be fixed and motionless. Change involves difficulty similar to that which was found in motion by Zeno the Eleatic.

The peculiar doctrine of perception formulated by Hegel is that the "relation" is the real thing, and that the subject and the object depend upon their relation to each other, which relation is all that there is of reality. Hegel despised the empirical philosophers, ridiculed scientists like Newton, and counted the ordinary belief called "common sense" to be a superstition. Hegel, however, departed from his province when he attempted to introduce his method into natural science, and the result was fruitless.

Hegel professed a religious mysticism in which God appeared as the self-development of the "absolute," and a morality Christian, explained after the fashion of his famous paradox. Self-renunciation was the ego passing into nothing and returning "enriched." The Christian principle of dying to live, of losing one's life in order to find it, was thus approvingly consorted with the former dictum of the identity of contradic-

tories and the genesis thereby of real and practical things.

COMTE.

Auguste Comte (1798-1857), the founder of Positivism and of "The Religion of Humanity," was the son of a taxgatherer in Montpellier, France. He appears to have been a rebellious schoolboy, but succeeded in acquiring enough mathematics to enable him to earn a living for some years thereafter by teaching that science. In 1825 he entered upon a marriage which, never happy, ended in a separation seventeen years later. By scanty tutoring and an occasional magazine article, Comte made a precarious livelihood for many years. He began to give a course of lectures in which he proposed to outline Positivism for the first time. After the third lecture had been delivered he had an attack of melancholy so dismal as to lead him to attempt self-destruction. He jumped into the river Seine, but a rescuer appeared and his life was saved. After a little over a year's rest he started lecturing again. In 1830 the first volume of the "Course of Positive Philosophy" saw the light. It took twelve more years to complete the entire six volumes. In 1833 Comte received an appointment as school inspector, which made his income reach $2,000 a year. He lost this position some nine years later, owing to his making a gratuitous and irrelevant attack on his employers in the preface to the sixth volume of the "Course." He thereupon applied for financial assistance to John Stuart Mill, who was an admirer of the scientific side of Positivism. Mill joined with three others in contributing £240 to Comte's support during

the ensuing year. Comte had regarded this as a perpetual pension, the tribute of admiring discipleship to enable the master to continue in the good work of upbuilding and spreading his truth. He did not conceal his chagrin when the allowance was cut down at the expiration of the year. Mill was astonished, and immediately allowed their correspondence, aforetime so cordial, to lapse entirely. Comte subsisted as best he could for a number of years, and then, through the kind offices of a friend, enough subscriptions were got from disciples to provide a steady annual income equivalent to about $1,000 a year. This continued and enabled the philosopher to devote his undivided energies to his influential but apparently non-revenue-producing books until the year 1857, when he died from cancer.

Few intellectual movements are more deserving of notice than Positivism. While transcendentalism reigned in Germany, this new scientific spirit awoke in France. Comte as a thinker is given by most competent judges superior credit for his work in systematizing science and for almost the creation of the science of sociology. From his earliest writings onward he shows an anxiety to produce something that might prove a real practical benefit to humanity. This thought, ever present, gives to his entire work a unity which has not always been discerned by able opponents. By way of leading on to scientific views regarding society, he undertook to review the sciences, to point out the laws of their development and the succession in which they would appear and progress. First of all he lays down the law of the three states. These represent three different attitudes of the human mind

in attempting to explain phenomena. The earliest of them is the theological. In this state all phenomena are explained by mankind as volition either in the object or in some supernatural being. The second state is the metaphysical, in which abstract ideas or principles are proffered as explanations. The third and last state is the positive, in which phenomena are compared and arranged, and the particular is grouped under the general fact. Thus, to borrow a well-known Positivist illustration, the Arab says opium produces sleep because God directly causes it to do so; the mediæval physician, in Molière, says it does so because it has a soporific quality; the modern scientist does not offer any explanation —that is beyond his power of analysis—he merely analyzes, compares, and classifies the phenomenon and its antecedents indefinitely.

The opinion that here fails to discriminate from superstition the religious aspirations is opposed by the common and most reliable testimony of experience, for the deepest appreciation of the religious sentiment occurs not in the infancy but in the advanced maturity of the individual, and the best expression of it in the noblest minds of the race.

Comte held that social phenomena could be arranged and classified and their exact laws discovered similarly as in the case of physical phenomena. He divided sociology into two departments: the statical, containing the laws of order, and the dynamical, containing the laws of progress. In the theological state, he held that the will of gods, with the resulting doctrines of divine right, etc., was considered an accurate explanation of political events. In the metaphysical state

men spoke of popular sovereignty, the state of nature, and other abstractions. In the positive state the phenomena are merely labeled and grouped under laws. This last state is supposed to bring fruitless disputation to an end and render science steadily and substantially progressive for all time to come.

Positive philosophy purports to be a science of the sciences, and accordingly a classification of the sciences is attempted. Comte's famous classification or hierarchy of the sciences, which is intended to indicate the order in which the sciences grew up and keep developing, is as follows: (1) mathematics, (2) astronomy, (3) physics, (4) chemistry, (5) biology, (6) sociology. The principle of the arrangement here adopted is avowedly from the general toward the less general, from the least special by degrees to the most special. Mathematics, he holds, is now in the positive state, while sociology, the last of the series, will also be the last to pass from the two earlier states and arrive finally also in the positive state. Furthermore, the second science of the series rests on the first, the third on the previous two, and so on as a sort of pyramid. The order here given to the sciences and the principle of decreasing generality adopted in Comte's classification were subjected to criticism by Herbert Spencer, who asserts that many sciences have developed according to increasing generality, and any order of succession in sciences must be artificial, as sciences are all interdependent and cannot be isolated. The answer returned by Positivists is that Comte's classification is not the only one possible but yet has the practical value and warrant of classifications in other sciences,

notably in the two great departments of zoölogy and botany.

Comte from the beginning had the ambition to be a social reformer, and he completed his work by crowning utilitarianism (the doctrine that utility is the sole standard of virtue) with the name of religion—the Religion of Humanity. For this purpose he conceived Humanity as the Great Being, a sort of personality, worthy of our service and our worship. This Great Being was to take the place of God. Comte also sketched a constitution of a church, a priesthood, and a ritual which was to supplant Catholicism. This audacious proposal only scandalized the religious, and excited the contemptuous pity of the scientific world. While Positivism, the philosophy, has received much applause from the agnostic element in society, Positivism, the religion, has proved too transparent a metaphor to call forth anything nearer devotion than a moral sentiment.

Comte's ethical system averred that moral transformation must precede any real advance in the individual or in society. Social feeling, styled altruism, triumphing over self-love or egoism, is the goal assigned towards which all are counseled to strain. In the reorganized society of the future Comte predicts a lofty moral part for women, whose cause he urges with an enthusiasm similar to that manifested for it by John Stuart Mill.

THE PESSIMISTS.

Two prominent German thinkers have presented to us a scheme of the world which made a

deep impression on the thought of the latter part of the nineteenth century. Arthur Schopenhauer (1788 - 1860), author of "The World as Will and Idea," and Edward von Hartmann (1842 -), author of "Philosophy of the Unconscious," are the two philosophers to whom the recently invented term of "pessimist" has been most distinctly applied. Such a superlative, and therefore presumably passionate, view of things as theirs has been a familiar phenomenon among the moral teachings in the past. Asceticism has nearly always been based on a pessimistic estimate of the present life, in which it has frequently been asserted there is overwhelming predominance of pain over pleasure.

Schopenhauer's system resembles, except in its terminology, pure Buddhism so closely as scarcely to require statement to any one who knows the outline of the doctrines of that despairing religion. To a cosmogony which derives everything professedly, not from a logical, intelligent or spiritual cause, but from an occult and irrational impulse, which he designates "Will" or, more definitively, the "Will to live," Schopenhauer adds an ethics which is unmixedly ascetic, sanctioning only self-sacrifice and actions based on compassion. Consciousness, according to Schopenhauer, entails only pain on the conscious being. Pleasure is merely a negative thing—the remission of a portion of the pain. Consciousness is, therefore, a Cosmic blunder, for which we are partly responsible and are continually atoning until we yield it up. This doctrine reminds us of the Greek philosopher Anaximander's one extant sentence, already quoted: "All things must in equity again decline into that form from which

they have arisen, to render each other atonement and punishment for their offense against the order of time." Consciousness, related Schopenhauer, has been brought into existence by the objectification of the "Will to live." It reaches its highest expression in man. In man reason appears and ultimately becomes strong enough to subdue this "Will to live." The individual—who is subject to reincarnation so long as the race exists and he fails in conquering "the will,"—and the race itself also then complete their peace in utter annihilation, the pessimistic goal corresponding to the Buddhistic Nirvana. Schopenhauer rejected the inference of the advisability of suicide, which he held to be an act of egotistical assertion of the will, not the suppression of it. He held that the renunciation of life was to be mainly accomplished by celibacy, which, to the most enlightened, would have the authority of a law. The obvious objection to this plan is that it could succeed in extirpating only the presumably most valuable individuals, and even if it were adopted by the race in the aggregate it could only clear the world for occupation by the more degraded forms of consciousness, the swelling and progressing lower orders of animals. In trying to escape this conclusion, Schopenhauer shows the collapse of his practical recommendation by bringing forward a poorly mystical surmise as follows: "And I think I may assume that along with the highest manifestation of will the feebler counterpart of it in the animal kingdom would also disappear."

Hartmann modified Schopenhauer's great practical recommendation into one for the race at some future time and not for the individual

now. Schopenhauer defined pleasure as merely the absence of pain, but Hartmann holds that there is positive as well as negative pleasure, and, by way of justifying his pessimism, draws up an arithmetical valuation to show that the balance is found on the side of pain. His much-quoted illustration, more naïve than convincing, is that the pain of the animal being eaten far exceeds in intensity the pleasure of the other animal engaged in eating it. Between Schopenhauer's "Will to live" and Hartmann's "Unconscious," the average individual will be able to make little real distinction. Both represent a necessity incapable of explanation, and Schopenhauer does not, any more than Hartmann, ascribe the attribute of consciousness to the original first cause, "Will."

Schopenhauer was a man of querulous temperament. He lived a solitary and contemplative, but by no means ascetic, life. Von Hartmann met with an accident to his foot which brought an incurable disease upon him while yet a stripling of twenty in the army, and he has been confined to his bedroom ever since.

HERBERT SPENCER.

Herbert Spencer (1820–1903), the founder of what has been called specifically the Synthetic Philosophy, was born in Derby, England, on the 27th of April, 1820. His father was a schoolmaster and private teacher of mathematics. Like his great contemporary, John Stuart Mill, Mr. Spencer received his early education at home under the tuition of his father, from whom he caught much of the enthusiasm for biological science which so distinguishes his writings. His

father was much interested in entomology, and the young philosopher early became an industrious collector of insect specimens. It does not appear that Mr. Spencer owed any of his extensive knowledge to pupilage in any school. The only other teacher that he had besides his father was an uncle, a Congregational minister, with whom he completed his studies at the age of seventeen. He then entered upon the profession of railway civil engineer. This he followed with success for the next eight years, not, however, without meantime showing his philosophical bent by occasional articles. The most notable of these was that which he contributed, at the age of twenty-two, to the *Non-Conformist* on "The Proper Sphere of Government." The decline of public interest in railroad undertakings led Mr. Spencer to devote his entire time to literary work. From his twenty-eighth to his thirty-third year he was sub-editor of the London *Economist*. His first great work, "Social Statics," was published in 1850, when he was thirty years of age. Five years later his "Principles of Psychology" appeared. Thereafter a continuous stream of books and essays on sociology, biology, general science, ethics, education, etc., flowed from his pen. Spencer led a retired single life in London. To the building up of his philosophy he devoted a long life, not without much almost heroic struggle in the earlier stages of his career. He steadfastly declined all academical distinctions.

His writings, clear in thought, elegant in diction, and abounding in interesting illustration, have long since achieved a popularity such as has fallen to the lot of few, if any, philosophical

treatises. There is a great coherence in the writings of Mr. Spencer. He appears in the vanguard of the philosophers of evolution—some of his greatest works antedated Darwin's "Origin of Species"—and his presentation and unfolding of the great principle has yielded much light on many previously obscure matters.

Evolution to Mr. Spencer is not merely in the main the principle of the survival of the fittest in the struggle for existence, the principle known as natural selection, but a doctrine of contraction —of a passing from homogeneity to heterogeneity. Evolution is the name of this great process which he perceives to be going on in this part of the universe, a process to be inevitably succeeded by the process of dissolution which may probably be at present the order of the day in another region of space. This eternal alternation of immeasurably vast periods of evolution with immeasurably vast periods of dissolution he postulates as the story of the universe.

He accepts the nebular hypothesis—that the planets are the products of their several suns. Thus our sun at one time extended beyond Neptune. In cooling and shrinking it left a ring which ultimately condensed into that most distant planet. Subsequent cooling and shrinking left the rings which by contraction formed the other planets, in the order of time corresponding to the order of space in which the telescope finds them. The moon similarly is the product of the earth, and Saturn's rings are moons in the process of formation. This theory is adopted, not originated, by Mr. Spencer. Suggested and outlined by Kant, it had been carried onward by the astronomers, Herschel and Laplace. Mr.

Spencer sees in it, however, an application of his great principle.

The earth once formed, everything has developed to what it now is, including no less the body and the mind of man. In this immense task the principle of natural selection, with an unlimited credit at the bank of time, is called upon to bear the chief and indeed nearly the sole burden. This method of selection—which, however, plainly does not provide for creation, its necessary concomitant in any work of progress—has been dubbed by others of the same school, "the cosmic process." It has guided scientists, particularly in botany and zoölogy, to many important facts, yet is coming to be generally regarded as not the whole truth but only one strand of it.

Much of the speculations of Herbert Spencer belong to biology and physical science. To the study of psychology he has added some ideas that have produced a deep impression on contemporary thought. These still, however, mostly bear the character of hypotheses, and it seems impossible that they are capable of ever being placed in the treasury of actual science, as in their nature they are not amenable to the crucial test of verification.

The great metaphysical hypothesis of Herbert Spencer concerns the origin of the categories. He has often been assailed as a Kantian because he joins issue with Locke on the doctrine of innate ideas. He holds that there are innate ideas in the individual conscious being. These he enumerates as follows: (1) space and time, (2) matter, (3) rest and motion, (4) force, (5) consciousness, (6) the soul or ego. He supports

Hamilton in maintaining that these ideas rest on belief, but draws a distinction, not noted by Hamilton, between belief in a thing of which the opposite is inconceivable and belief that is another name for an opinion resting on insufficient evidence. These two forms of belief are similar only in the fact that we cannot prove them, but while belief in the categories is a necessity of thought, belief of the ordinary sort can be lightly taken up and lightly set aside. Mr. Spencer holds that these primary data of consciousness are empirical in the race of living things but *a priori* in the individual.

For example, the idea of space began to dawn at an early period in the minds of our ancestors. It was at first merely an isolated matter of experience; but motor, tactual, and visual appearances persisting through ages with a perfect uniformity of testimony as to space such as never once disappointed the mind, these impressions became organized and ultimately formed one necessity of thought, the negation of which was inconceivable. At the same time space, according to Mr. Spencer, is not merely a form of thought but a form of things. The empiricism of Locke, which extended only to the individual, is thus widened to embrace the race or even any conscious series through which the individual may trace his ancestry. The collective life could succeed in producing that which the individual life was all too short to produce.

Next, Mr. Spencer takes up the principle of cause and effect, which is a necessity of thought. He accepts the foundation Sir William Hamilton pointed out for this principle: namely, the wider principle that it is impossible for us to conceive

the totality of being to increase or decrease—the destruction of matter or force once in existence is inconceivable, and the addition of further matter or force from nothing is inconceivable. Denial of the principle of cause and effect involves the assertion that some quantity of cause has disappeared without effect or some quantity of effect has arisen without cause. The principle of cause and effect is thus held to be a deduction from a more general principle that has been established in the human mind like the other categories by the numberless verifying experiences of our ancestors that produce a necessity of thought.

The principle of causality leads us to declare that our impressions and ideas have a cause. Mr. Spencer says these are the resultant of the coöperation of object and subject, that is, of the ego and non-ego or the self and the external world. "Our mental evolution is the result of converse between organism and environment." Under the phenomena and the ego exists a common reality, but this reality can never be known in itself and at first hand. It is the legitimate inference on the ground of causality but our knowledge of its nature is relative. We can only be sure that it exists. It is the one great unknowable reality of which we and all things else are the products. Mr. Spencer uses the words "power" and "reality" and refuses any classification of it under the more characterizing terms of materialism or idealism. This powerism, or, as he himself calls it, "transfigured realism," has been coupled by Mr. Spencer with the religious emotion and elevated into a form of religion, since called agnosticism—owing to the fact that

the one predicate of unknowableness has been proleptically assigned to the "reality" in its aspect of a supreme being worthy of our greatest reverence. Mr. Spencer does not admit this power to be necessarily of a lower order than mind, but states that it may have modes of activity as far excelling intelligence and will as intelligence and will excel mechanical motion.

Mr. Spencer exploited several fields of inquiry similar to those investigated by Comte, and found radical ground of difference from him on some points. Objecting to Comte's classification of the sciences, he held that no rational serial order could be allotted to them. In place of Comte's principle of division according to decreasing generality, he puts the division of "abstract" and "concrete." He distinguishes abstractness from generality by saying abstractness means the detachment from the incidents of particular cases, while generality means manifestation in numerous cases. His classification of the sciences is accordingly as follows:

1. Abstract sciences (those which treat of the forms in which phenomena are known to us): logic and mathematics.

2. Concrete sciences (those which treat of the phenomena themselves): astronomy, geology, biology, psychology, sociology, etc.

3. Abstract-concrete sciences: mechanics, physics, chemistry.

Mr. Spencer's theory as to religions is that they originated mostly from ancestor worship. As to ethics, he accounts for the moral sentiments in the same way as he accounts for the categories: namely, that they are the product of heredity and the innumerable experiences of ancestors. He

takes sides with the Hedonists or those who regard pleasure as the chief end of conduct. He recommends the recognition of the claims of both egoism and altruism and regards as the best that conduct which harmonizes with the apparent course of evolution. He admonishes and directs by reminding us of the methods of nature. He advises that governments limit themselves to their appropriate police and military function. He ardently takes sides with the let-alone or *laissez-faire* economists against all upholders of doctrines that savor of socialism.

The effort visible on every page to support his positions by empirical illustration drawn from contemporary science and personal observation and research, has obtained for Mr. Spencer's metaphysics favored attention from those whose studies lie mainly in the physical sciences.

QUESTIONS.

PART I.

THALES. (p. 7) 1. Why is Thales generally regarded as the first philosopher?

2. To what philosopher are we mainly indebted for what we know of Thales?

3. To what school of philosophers did Thales belong?

4. From what element did Thales say the universe arose?

5. What explanation does Aristotle offer for the origin of Thales' doctrine?

6. Was Thales a polytheist?

ANAXIMANDER. (p. 8) 1. To what school of philosophers did Anaximander belong?

2. What treatise did Anaximander write?

3. To what writers are we mainly indebted for what we know of the theories of Anaximander?

4. Give the only sentence which has been handed down to us in Anaximander's own words.

5. What does Anaximander assign as the first cause of the universe?

6. The speculations of what later schools does Anaximander's explanation of the origin of things resemble?

7. Outline Anaximander's scheme of the creation of the constellations, the sun, the earth, men, and animals.

8. What is the final catastrophe awaiting the earth, according to Anaximander?

9. What is meant by the doctrine of the "Infinite Series of Worlds"?

ANAXIMENES. (p. 10) 1. To what school of philosophers did Anaximenes belong?

2. From what element did Anaximenes say the universe arose?

3. Quote Anaximenes' own statement of his doctrine.

4. Explain Anaximenes' doctrine of condensation and rarefaction.

5. How was the doctrine of "air" probably suggested to Anaximenes?

6. What facts regarding the moon is Anaximenes said to have discovered?

7. What famous doctrine of a later date does the doctrine of air resemble?

LATER IONIANS. (p. 11) Name the two minor Ionian philosophers and their doctrines.

PYTHAGOREANS. (p. 12) 1. To what science did Pythagoras render considerable service, and in what did this service principally consist?

2. What school of ethics did Pythagoras cultivate?

3. What did the Pythagoreans believe to be "the element of existence"?

4. Give the Pythagorean table of Contraries.

5. From what number did the Pythagoreans evolve all numbers?

6. Explain the Pythagorean doctrine of the "Music of the Spheres."

7. Explain the Pythagorean doctrine of metempsychosis.

8. In what book of Plato's do we find the Pythagorean doctrine of transmigration described?

9. Name the chief elements of the Pythagorean moral code.

XENOPHANES. (p. 14) 1. To what school of philosophers did Xenophanes belong?

2. What is the great doctrine of the Eleatics?

3. What two books did Xenophanes write?

4. "Xenophanes was the first of the pantheists." Criticise this statement.

5. What peculiar opinions regarding the earth, the sun, and the stars, are attributed to Xenophanes?

PARMENIDES. (p. 15) 1. Who has written a dialogue which bears the name of Parmenides?

2. What metrical work did Parmenides write, and how much of it is extant?

3. State Parmenides' doctrine of "the one."

4. Quote a famous epigram of Parmenides.

5. What emotion did Parmenides regard as the ruling power in the work of creation?

ZENO OF ELEA. (p. 16) 1. Of whom was Zeno of Elea a favorite disciple?

2. State the Eleatic Zeno's argument against the idea of plurality.

3. State and illustrate the four arguments of Zeno of Elea against the possibility of motion.

4. What refutation of the Achilles puzzle of Zeno of Elea was propounded by John Stuart Mill?

EMPEDOCLES. (p. 18) 1. What poem did Empedocles write?

2. What are the four roots of things detailed by Empedocles?

3. State Empedocles' doctrine of "love" and "hate."

4. What doctrine of sensation did Empedocles originate?

5. How did plants and animals originate, according to Empedocles?

6. From what doctrine did Empedocles deduce a vegetarian rule?

HERACLITUS. (p. 19) 1. What modern school has adopted important principles of Heraclitus?

2. What nickname was bestowed on Heraclitus by the ancients?

3. What is Heraclitus' doctrine of "flux"?

4. To what element did Heraclitus ascribe the origin of all things?

5. What illustration did Heraclitus employ in support of his statement that "strife rules the world"?

DEMOCRITUS. (p. 20) 1. What nickname was bestowed on Democritus by the ancients?

2. What school of philosophy did Democritus found?

3. State the Atomic theory.

4. To what single sense did Democritus reduce all sensation?

5. What are the only two primary qualities of matter, according to Democritus?

6. What was the moral theory of Democritus?

THE SOPHISTS. (p. 22) 1. What vocation did the Sophists follow?

2. Did the Sophists have one common philosophical system?

3. In what respect did the Sophists resemble one another?

4. Name the most notable Sophists.

ANAXAGORAS. (p. 22) State Anaxagoras' doctrine of "fragments."

SOCRATES. (p. 23) 1. To what writers are we mainly indebted for what we know of Socrates?

2. In what one respect did Socrates consider himself wiser than other men?

3. What is the "elenchus" of Socrates?

4. What doctrine did Socrates put in the place of the Sophists' statement that virtue rests on opinion?

5. What was Socrates' view as to God?

6. How did Socrates account for the ignorance of mankind as to the origin of the world?

7. What, to Socrates, was the true object of knowledge and the *summum bonum?*

8. State Socrates' doctrine regarding "justice" and "injustice."

9. Why did Socrates discard rhetoric for the dialogue?

10. What did Socrates expect from "definitions"?

11. In what dialogue of Plato's do we find an account of the death of Socrates?

THE MEGARICS. (p. 27) 1. Who was the founder of the Megarian school of philosophy?

2. State in what ideas the Megarian school stands related to the Eleatic and Socratic.

3. What nickname was given to the Megarics by the ancients, and for what reason was it given?

THE CYRENAICS. (p. 28) 1. Who was the founder of the Cyrenaic school of philosophy?

2. How did the Cyrenaics interpret the Socratic "good"?

3. In what book of what writer have we an account of the Cyrenaics?

4. What modification did the Cyrenaics add to their *summum bonum?*

THE CYNICS. (p. 29) 1. What is the primary meaning of the word "cynic" in the Greek language?

2. Who was the founder of the Cynic school of philosophy?

3. Compare the view of the Cynics with that of Socrates regarding poverty.

4. Who is the most famous of the Cynics?

5. Is the Cynical movement important to cosmology or to ethics?

PLATO. (p. 30) 1. State Plato's doctrine of ideas.
2. What great controversy in the Middle Ages turned upon a question first stated by Plato?
3. Give Plato's speculation as to the prenatal existence of the soul, and its bearing on his theory of ideas; and morals.
4. By what name is Plato's doctrine of the prior vision and memory of the soul called?
5. "Plato is a monotheist." Is this true, and in what way?
6. What analogy did Plato, in common with many of the ancients, advance in reference to the world?
7. What is Plato's famous doctrine of love?
8. For what reason does Plato, in his "Republic," advise the banishment of poets and all but the gravest musicians?
9. How does Plato relate the individual, the family, and the state in the "Republic"?
10. Name some of the best-known dialogues written by Plato.

THE SKEPTICS. (p. 34) 1. Who was the founder of the ancient Skeptic school of philosophy?
2. Whom did the Skeptics most resemble in their teachings?
3. To whose writings are we mainly indebted for what we know of the Skeptics' doctrines?
4. State the doctrines of the Skeptics.
5. What other name is given to the Skeptics?
6. What Skeptical school did Arcesilaus found?

THE EPICUREANS. (p. 34) 1. How many books did Epicurus write?
2. Of how many books of Epicurus have we fragments?
3. What did Epicurus place above everything in philosophy?
4. What idea did Epicurus carry to great extremes? Give an example.
5. What school did Epicureanism resemble in the choice of a *summum bonum?*
6. Describe the Epicurean definition of "pleasure," and show its difference from the Cyrenaic.
7. What is the Epicurean theory as to the origin of the world?

8. What is the Epicurean theory of the soul, and of perception?

9. What is the Epicurean theory as to the gods?

10. What Roman poet faithfully describes the Epicurean theory of the universe? What is the title of the poem in which he does so?

ARISTOTLE. (p. 37) 1. To what historian are we chiefly indebted for what we know of the life of Aristotle?

2. By what nickname were the followers of Aristotle known and why?

3. State the difference between Aristotle and Plato on the subject of "ideas," and give Aristotle's illustration.

4. State Aristotle's distinction between "art" and "experience," and give his illustration.

5. What science did Aristotle create?

6. Explain and illustrate what is meant by a syllogism.

7. What are categories?

8. How many categories did Aristotle postulate? Name them.

9. What are predicables?

10. How many predicables did Aristotle postulate? Name them, with Aristotle's illustration.

11. Give Aristotle's fourfold root in metaphysics.

12. What is Aristotle's idea of God and into what trinity did he resolve this conception?

13. What did Aristotle regard as the highest pleasure?

14. What is Aristotle's rule or definition of wisdom?

15. In what respect did Aristotle differ from Plato in his views on government?

16. Name some of Aristotle's best-known works.

THE STOICS. (p. 41) 1. In what centuries did Stoicism flourish?

2. Who was the founder of Stoicism?

3. From what is the name "Stoic" derived?

4. What is the Stoic *summum bonum?*

5. What is the Stoic definition of manhood in its ethical sense?

6. Give the Stoic opinion as to pleasure and pain, the objection raised, and the answer of the Stoics.

7. What did the Stoics make the supreme law for mankind? Quote the Stoic aphorism on this point.

8. Give an illustration of the extremes to which Stoicism led.
9. Give Cleanthes' and Chrysippus' interpretations of the great ethical law of the Stoics.
10. What is meant by the Stoic doctrine of "Apathy"?
11. What important element did the Stoics first point out to physical science? Illustrate this by their theory of light and heat.
12. What is meant by the Stoics' "pneuma"?
13. Name some of the great Stoics.
14. Into what school did Stoicism latterly converge?

THE NEOPLATONISTS AND THE GNOSTICS. (p. 47) 1. In what doctrine do the Neoplatonists follow Plato?
2. What ethics did the Neoplatonists teach?
3. What principle did the Neoplatonists introduce?
4. How was Neoplatonism a religious movement?
5. Who was the most notable exponent of Neoplatonism?
6. What Neoplatonist is principally remembered on account of his attacks on Christianity?
7. What does the general name of Gnosticism stand for?
8. Name a distinguished exponent of Hellenic Gnosticism.

PART II.

THE FATHERS. (p. 49) 1. Into what three groups are the Fathers divided?
2. What is the study of the Fathers called?
3. Name the four great Fathers.
4. What is the best-known work of St. Augustine?

THE ARABIAN PHILOSOPHERS. (p. 51) 1. Of what great movement were the Arabian philosophers largely the cause, and why?
2. What did Algazzali teach?
3. Who was the ablest and most famous teacher of the Arabian school, and what are his writings called?
4. Upon what Greek philosopher did the Arabian philosophers depend?

THE SCHOOLMEN. (p. 54) 1. During what centuries did Scholasticism flourish?

2. Why is the name Schoolmen or Scholastics given to the philosophers of the Middle Ages?

3. Name the two opposite camps of "the Great Controversy" and state to what it had reference.

4. How did the Scholastic controversy happen to arise?

5. Name some of the famous Schoolmen and state which side each took on the question at issue.

6. What great book did Thomas Aquinas write?

7. By what title is Thomas Aquinas often referred to, and why?

8. What were his followers called?

9. Who were the opponents of the doctrines of Aquinas, and from whom did they derive their name?

10. What was the main difference of opinion that existed between the Thomists and the Scotists?

11. Who was the last of the Scholastics, and which side did he take?

ROGER BACON. (p. 58) 1. In what century did Roger Bacon live?

2. Was Roger Bacon a Schoolman?

3. Name Roger Bacon's great books.

4. Name the three means of knowledge, according to Roger Bacon.

5. What science did Roger Bacon consider the basis of all the sciences?

6. What department of thought was mostly benefited by Roger Bacon?

BRUNO. (p. 60) 1. What is Bruno's principal book?

2. Of what system in science was Bruno an earnest advocate?

3. What is Bruno's doctrine of monads?

CAMPANELLA. (p. 62) To what class of opinion does Campanella's theory of the world belong?

PART III.

FRANCIS BACON. (p. 63) 1. What is the general title of Francis Bacon's principal philosophical productions?

2. What are "induction" and "deduction"? Which did Francis Bacon advise?
3. Why is Francis Bacon considered the father of modern science?
4. State the four steps of the modern scientific process and compare it with Francis Bacon's.
5. State the four classes of "idola," as arranged by Francis Bacon.

DESCARTES. (p. 67) 1. Name Descartes' principal books.
2. What is the method of Descartes called as compared with that of Francis Bacon?
3. What is the first great truth, as announced by Descartes?
4. Give Descartes' three main arguments for the existence of God.
5. What doctrine did Descartes enunciate regarding lower animals?

LATER CARTESIANS. (p. 69) 1. Give the names and nationalities of the two greatest Cartesians after Descartes.
2. What was Malebranche's doctrine as to God, the soul, and the material world? What name is given to this doctrine?
3. Of what general class of religious thinkers is Spinoza the most distinguished?

LEIBNITZ. (p. 70) 1. Name the great doctrine of Leibnitz, and tell what doctrine of the Cartesians it was intended to supplant.
2. Describe Leibnitz's great theory, using his own illustration.
3. What is the Leibnitzian theory of monadology?

HOBBES. (p. 71) 1. To what general class of thinkers does Hobbes belong?
2. What did Hobbes hold to be the proper method in psychology?
3. What truth regarding sensations was pointed out forcibly by Hobbes?
4. What principle regarding memory was first pointed out and most clearly illustrated by Hobbes?

LOCKE. (p. 73) 1. What is the title of Locke's most famous book?

2. On what two things did Locke rest all knowledge?
3. What was Locke's view as to innate ideas?
4. Explain Locke's distinction of "simple" and "complex" thoughts arising from sensation.
5. What are the primary and secondary qualities of matter?
6. Of what school is Locke said to have been unwittingly the forerunner?

CONDILLAC. (p. 76) 1. By what name are Condillac and his followers known?
2. In what department of thought besides metaphysics did Condillac distinguish himself?

BERKELEY. (p. 76) 1. What is the name given to the philosophy developed by Berkeley?
2. What did Berkeley say about matter?
3. What sort of reality did Berkeley postulate for the external world?

HUME. (p. 77) 1. What is Hume's definition of mind?
2. To what two things did Hume reduce all knowledge?
3. What did Hume say about the categories?
4. Give Hume's argument against free will.

THE SCOTTISH SCHOOL. (p. 79) 1. What is usually regarded as the leading doctrine taught by Reid?
2. What principle did Reid perceive as the cause of the error in Hume's skepticism?
3. Whom did Reid blame for originating the error he sees to underlie modern philosophical skepticism?
4. What illustration did Reid use to explain his theory of "innate judgments"?
5. What was Reid's answer to the sensationalists?
6. What did Sir William Hamilton mean by the term "belief" according to his own explanation?
7. What did Hamilton rest on belief?
8. What name is sometimes given to Hamilton's philosophy?
9. How does Hamilton subdivide his "unconditioned"?
10. What is Hamilton's doctrine of contradictories?
11. What did Dr. Thomas Brown say of the relation between philosophical and religious skepticism?

KANT. (p. 84) 1. What commonly accepted theories of physical science are said to have been first enunciated by Kant?

2. What are the titles of Kant's most important works?

3. What is the main idea of the theory known as transcendentalism?

4. What three transcendental ideas does Kant hold to be of great importance to morality?

5. Give the most notable moral maxim enunciated by Kant.

FICHTE. (p. 86) 1. From what philosopher's system was Fichte's derived?

2. What name is given to the philosophy of Fichte?

3. Repeat Fichte's statement which accounts for the existence of the not-self.

4. What thing is accredited the first place in the Fichtean scheme, and how is it said to act?

5. What did Fichte say is the only proper motive?

6. What is the absolute ego, according to Fichte?

7. What was Fichte's view as to the quality and usefulness of the world?

8. What noted pessimist adopted a leading doctrine from Fichte, and what is that doctrine?

SCHELLING. (p. 89) 1. What thought did Schelling adopt from Fichte?

2. What thought did Schelling adopt from Spinoza?

3. State the ruling doctrine of Schelling's system.

4. What is the main difference between the system of Schelling and that of Fichte?

5. What school showed high appreciation of Schelling?

6. What important new doctrine did Schelling add to transcendentalism?

HEGEL. (p. 91) 1. What is the great Hegelian paradox?

2. Give Hegel's explanation of the process of creation, with his illustration of pure light.

3. State the doctrine of "flux."

4. What is Hegel's doctrine of perception?

5. What is Hegel's definition of God?

6. What Christian moral principle especially does Hegel fit in with his main doctrine?

COMTE. (p. 94) 1. What are the names of the philosophy and of the religion founded by Comte?

2. What is the title of Comte's great work?

3. What main service is Comte said to have done to science, and what science is he said to have created?

4. Give Comte's law of the three states, and illustrate them.

5. Into what two departments does Comte divide sociology?

6. What outline does Comte advance as the history of sociological speculation?

7. Give the hierarchy of the sciences, according to Comte.

8. What is Comte's principle of arrangement in his classification of the sciences?

9. What objection to Comte's classification of the sciences has been presented, and what answer has been returned by its defenders?

10. Describe Comte's "Religion of Humanity."

11. What are the main ideas of Comte's system of ethics?

THE PESSIMISTS. (p. 98) 1. What religion does Schopenhauer's philosophy closely resemble?

2. To what did Schopenhauer ascribe the origin of everything?

3. What kind of morality did Schopenhauer inculcate?

4. What is Schopenhauer's definition of pleasure?

5. What Greek philosopher seems to have taught one doctrine somewhat similar to the main one of Schopenhauer?

6. Give Schopenhauer's explanation of "consciousness"; its cause and its destiny.

7. What is Schopenhauer's great practical recommendation to remedy the ills of life?

8. Wherein lies the most obvious weakness of Schopenhauer's most notable practical recommendation?

9. How did Hartmann modify Schopenhauer's most notable recommendation?

10. What two characteristics does Hartmann, in opposition to Schopenhauer, allow to pleasure?

11. By what method does Hartmann defend his hypothesis of pessimism, and what noted illustration does he use?

12. To what does Hartmann ascribe the origin of everything?

HERBERT SPENCER. (p. 101) 1. What is the name given by Mr. Spencer to his philosophical system?

2. What is the great principle on which Mr. Spencer builds his philosophy, and how does he define it?

3. Outline the theory Mr. Spencer accepts as the correct one for the origin of the world.

4. State the categories postulated by Mr. Spencer.

5. What is the difference between Spencer's and Hamilton's doctrines of "belief"?

6. Give Mr. Spencer's doctrine of "transfigured realism" in reference to the origin of the categories.

7. What is the difference between the empiricism of Locke and that of Spencer?

8. Give Mr. Spencer's explanation of the fact that the principle of causality is a necessity of thought.

9. To what origin does Mr. Spencer ascribe "impressions" and "ideas"?

10. What is Mr. Spencer's view as to "reality" in the ego and in the external world?

11. What attribute does Mr. Spencer assign to the "reality" in order to arouse the religious sentiment and make of his system a religion?

12. Give Mr. Spencer's classification of the sciences, and his comparison of it with that of Comte.

13. What is the *summum bonum* according to Mr. Spencer?

14. What explanation does Mr. Spencer give for the origin of the moral sentiments?

15. What is Mr. Spencer's criterion of good conduct?

16. What is Mr. Spencer's principal doctrine in economics?

VOCABULARY.

Absolute, The. The First Cause considered specially as underived and self-existent. [Lat. *absolvo*, to free or loose from.]

Acosmist. One who denies the existence of the world; for example, a pantheist in contradistinction to an atheist. [Gr. *a*, not, and *kosmos*, world.]

Agnosticism. The doctrine that the first cause, as well as the reality underlying phenomena, is unknowable. As a form of religion, the worship of this unknowable first cause. [Gr. *a*, not, and *gnōstikos*, knowing.]

Altruism. The doctrine which inculcates the sacrificing of self in the interest of others. [Old Fr. *altrui*, others.]

Apathy. Freedom from passion. The condition recommended by the Stoics, in which passion was subdued to reason. [Gr. *a*, not, and *pathos*, passion.]

A Posteriori. The general way of reasoning in which we ascend from viewing objects or phenomena to the knowledge of their causes. It is the opposite of the *a priori* way. [Lat.]

A Priori. The general way of reasoning in which we descend from general or self-evident principles or causes to the knowledge of their consequences. [Lat.]

Asceticism. The exercise of virtue according to a severe standard, including celibacy and poverty. [Gr. *askēsis*, exercise.]

Category. One of the forms of thought; one of the thoughts on which all other thoughts rest. A category is held to be contributed by the understanding, as it is self-evident and incapable of any proof or disproof. Thus: time, space, causality, etc. [Gr. *katēgoreo*, to predicate.]

Cosmogony. Any theory of the origin of the ordered universe. [Gr. *kosmos*, world, and *gignomai*, to come into being.]

Cosmology. The general science of the universe, its structure, etc. [Gr. *kosmos*, world, and *logos*, discourse.]

Deduction. The drawing of a particular truth from a general principle. The syllogism is the form or framework

of deduction. The opposite process is called "Induction." [Lat. *deduco*, to draw from.]

Determinism. Necessitarianism. The doctrine that the will is wholly determined by the motives. The opposite doctrine—that of free will—is called "Indeterminism" or "Libertarianism."

Dialectics. Logic. The art of reasoning. [Gr. *dialektos*, speech.]

Dogmatism. The making of assertions on one's own or other authority without offering sufficient additional evidence. [Gr. *dogma*, from *dokeo*, to think.]

Egoism. In metaphysics, the doctrine that our own existence is the only thing of which we can be certain. In ethics, the word is now used as the opposite of "Altruism," to denote the doctrine that inculcates the promoting of the interests of the self. [Lat. *ego*, I.]

Empiricism. The tracing of all knowledge to experience. The practice of observation and experiment. Hence also the words "empiric" and "empirical" to designate the person so doing, and statements based on experience. [Gr. *empeiria*, experience.]

Ethics. Moral philosophy. The science of conduct. [Gr. *ēthos*, conduct.]

Evolution. The progress of beings by virtue of the power of heredity and by any natural mode of selection by which the fittest types, individuals, or things are preserved. [Lat. *e*, out, and *volvo*, *volutum*, to roll.]

Hedonism. The doctrine that pleasure is the proper end and aim of conduct. [Gr. *hēdonē*, pleasure.]

Hypothesis. A supposition suggested as a possible explanation of any facts, and submitted for verification or rejection. [Gr., a supposition.]

Idealism. The doctrine that the objects commonly believed to be external to our senses are merely ideas.

Indeterminism. Libertarianism. The doctrine of free will. The opposite of "Determinism."

Induction. The way of reasoning by which we infer for a whole class, something we have observed in a number of individuals of that class. Reasoning upward from the particular to the general. [Lat. *in*, and *duco*, to lead.]

Materialism. The theory that everything is reducible to matter.

Metaphysics. The branch of inquiry that seeks the truth underlying the phenomena that are presented to the senses. The general science of being. Ontology. [Gr. *meta*, beyond or after, and *physika*, the things of nature, physics.]

Metempsychosis. The transmigration of the soul from one body, at its death, to another. [Gr.]

Monad. The ultimate element. According to Leibnitz, an atom charged with a vital force. [Gr. *monas*, unit.]

Monotheism. The belief that there is one God only. [Gr. *monos*, one; *theos*, God.]

Mystic. One who presents a theory, obscure, imaginative, and, in its nature, unverifiable in ordinary experience. [Gr. *mystikos*, initiated into secret doctrines.]

Necessitarianism. Necessarianism. The doctrine that there is no free will. Determinism.

Nominalism. The doctrine that the general term is but a name. The opposite of "Realism." [Lat. *nomen*, a name.]

Non-ego. The object or external world, as distinguished from the ego or self. [Lat., not-self.]

Objective. Relating to the external world, called the non-ego or object. The opposite of this word is "subjective."

Ontology. The branch of inquiry that treats of being in general. Metaphysics. [Gr. *on*, being, and *logos*, discourse.]

Pantheism. The doctrine that the universe is God. [Gr. *pan*, all, and *theos*, God.]

Pessimism. The doctrine that the world is incurably bad and that life under any conditions is still an evil. [Lat. *pessimus*, the worst.]

Phenomenon. An appearance, as distinguished from the "noumenon" or reality supposed to underlie it. [Gr., appearance.]

Polytheism. The belief in many gods, together with the rejection of the idea of one supreme and infinite God. [Gr. *polys*, many, and *theos*, a god.]

Psychology. The science of mind. The study of the facts of consciousness. [Gr. *psychē*, the soul, and *logos*, discourse.]

Realism. The doctrine of the Schoolmen of the Middle Ages that general terms represent real things, independently of the particular things they classify.

Sensationalism. The theory which places sensation first and makes it the reality from which all thought is derived.

Skepticism. The negative attitude in philosophy. Ancient skepticism denied the possibility of knowledge and rested everything on opinion. Modern philosophical skepticism is usually the denial of the existence of a reality underlying phenomena. [Gr. *skeptomai*, to look about, so as to observe carefully.]

Sociology. The science which treats of the laws under which society develops.

Subjective. Relating to the self, called the ego or subject. The opposite of this word is "objective."

Summum bonum. That which constitutes the principal end of conduct in any system of morals. [Lat., the chief good.]

Teleology. The method of inquiry which regards everything in the light of its purpose, as apparently designed by the Creator. The doctrine of "Final Causes." [Gr. *telos*, an end, and *logos*, discourse.]

Theosophy. In its widest sense, a theory of God and of His works which is not based on reason or evidence but on the theorist's own claims to a special inspiration. It is usually markedly capricious. [Gr. *theos*, God, and *sophia*, knowledge.]

Transcendentalism. The doctrine that there is a philosophical consciousness beyond the ordinary faculties of perception, and that the *a priori* facts can be perceived and known by it, while they nevertheless completely transcend the reason.

INDEX.

Key to Pronunciation.—VOWELS: ā in lāte, ă in făt, ä in fär; ē in mē, ĕ in mĕt; ī in fīne, ĭ in tĭn, ï in police; ō in nōte, ŏ in nŏt; ū in tūne, ŭ in nŭt, u̇ in rude; ȳ in mȳ, ў in hўmn. CONSONANTS: ç in çent, e in ean; ġ in ġem, g in get; ĸ = German ch; ɴ = ng, but is silent (the French nasal); ş = s. *Italic letters are silent.*

	PAGE
Ab'elard	56
Absolute, of Hamilton	83
of Hegel	93
of Schelling	90
Abubä'çer	52
Agnos'ticism	106
Air, Anaximenes' doctrine of	10
Alber'tus Mag'nus	57
Alçibī'adēş	27, 34
Al Fārā'bī	52
Algăzzä'lī or Algä'zel	52, 53
Al Ken'dī	52
Am'brōşe	49, 50, 51
Anaxag'oras	22
Anaximan'der	8, 99
Anaxim'enēş	10
Angelic Doctor	58
An'selm	56
Ante-Nī'çėne Fathers	49
Antis'thenēş	29
Apathy, Stoic doctrine of	44
Apostolic Fathers	49
Aquī'nas	57
Arabian philosophers	51
Arcesilā'us	34
Aristip'pus	28, 36
Ar'istotle	37
Athanā'sius [-shius]	49
Atomic theory	20, 21, 36
Au'gustine	48, 49, 50
Aver'roēş	52, 53
Aviçen'na	52
Bacon, Francis	63
Bacon, Roger	58
Bā'sil	49
Belief, of Hamilton	82, 83
of Herbert Spencer	105
Berk'eley	76
Bonăventu'rä	59
Brown, Dr. Thomas	83
Bru'no	60
Bru'tus	46
Cämpănel'lä	62
Carte'sians [-zhanz]	67–70
Cat'egories, of Aristotle	40
of Kant	85
of Herbert Spencer	104
Cā'to	46
Chrȳsip'pus	44
Chrȳs'ostom	49
Cic'ero	46
Classification of the sciences, by Comte	97
by Herbert Spencer	107
Cleăn'thēş	44
Clem'ent of Alexandria	49
Clement of Rome	49
Common-sense Philosophy	80
Compendium of Philosophy, by Hobbes	59
Comte [cŏNt]	94
Condillac [cŏN-de-yăk']	76
Confessions, by St. Augustine	48, 51
Contraries, the Pythagorean	13
Coper'nican system	61
Cornu'tus, the Stoic	46
Cousin [koozĂN']	79
Crā'tēş, the Stoic	42
Crat'ylus	30
Critical philosophy, the	85
Critiques', of Kant	85
Cȳn'ics	29
Cȳp'rian	49